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FAMILY EXPENDITURE IN 1947
PART II. OUTLAY ON FOOD & NUTRITIONAL INTAKE

(1) THE PATTERN OF FOOD EXPENDITURE

(*a*) *Outlay on Food and Size of Family*

In a previous paper[1] we discussed the household expenditure of the 163 families that, in the summer of 1947, had supplied household accounts covering their expenditure of housekeeping money during a fortnight. This present article is concerned solely with the purchases of food as recorded in these accounts, comparing, as far as possible, the changes in this expenditure from the summer of 1946 to the summer of 1947, and their effect on the nutritional intake.

Of the 163 families, 80 had kept an account for us also in 1946; the structure of 55 of these families had remained *unchanged* since the summer of 1946, while that of 25 of them had *changed.* The remaining 83 families are styled by us *new* families. Table XV shows the structure of these three groups of families, together with their weekly outlay on food per ' man '[2] and per person and the corresponding total household outlay. There was little difference in the average expenditure on food per ' man ' of the three groups in 1947, and the same is true of this expenditure of the *unchanged* and of the *changed* families in 1946. Form 1946 to 1947, the outlay on food per ' man' of the *unchanged* families had risen by slightly over 4 per cent, while their outlay on food per person had gone up by almost 7 per cent, the difference

TABLE XV

Structure of Families, Household Expenditure, and Outlay on Food

	Unchgd. Fams. (55)		Chgd. Fams. (25)		New Fams. (83)	All Fams. (163)
	1946	1947	1946	1947	1947	1947
Persons per Family...	4.64	4.64	5.12	5.60	5.10	5.02
' Man ' Value per Person	*0.76*	*0.78*	*0.80*	*0.80*	*0.75*	*0.77*
Outlay per Week						
Food per ' Man ' ...	14 7¾	15 3¼	14 5½	15 1¾	15 6½	15 4½
Food per Person ...	11 2¼	11 11½	11 6¼	12 0¾	11 8	11 9¾
Total Household per ' Man	30 7½	32 3¾	28 10¾	28 7½	33 9¼	32 4¾
Total Household per Person	23 4¾	25 3¾	23 0¼	22 9½	25 4	24 10¾

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[1] BULLETIN, Vol. 10, No. 11 : *Family Expenditure in 1947, Part I.*

[2] For the scale of ' man ' values used, *cf.*, *Part I*, Table III.

between these two figures being due to the higher average ' man ' value of these families in 1947. The *changed* families had in both years a ' man ' value per person of 0.80, and the rise in their outlay on food amounted to approximately 5 per cent per ' man ' as well as per person.

(*b*) *Expenditure on Food of Unchanged and Changed Families*

A more realistic although perhaps a somewhat less scientific picture of changes in the family expenditure on food is obtained if for identical families and in successive years that outlay is considered per person and not per ' man ', for children's needs for food tend to expand gradually and not by jerks at predetermined age limits, as is of necessity implied by any scale of ' man ' values. Only the *unchanged* families were identical in a strict sense in both years; but since they outnumber the *changed* families by more than 2 to 1 we considered it appropriate to base our first comparison of food expenditure in 1946 and 1947 for both these groups on the respective data of food expenditure per person. For the two groups of families taken together the average rise in this outlay amounted to over 6 per cent, while the increase per ' man ' was about 4½ per cent.

The data in Table XVI show that during the fortnight in 1947 for which the families kept an account, about three-eighths of the *unchanged* and about a quarter of the *changed* families spent on food per person approximately as much as during the fortnight in the previous year. One quarter of the *changed* families and one-sixth of the *unchanged* families recorded an expenditure that fell short by more than 5 per cent of their expenditure in 1946; the remaining families stated an outlay higher by more than 5 per cent in 1947 than in 1946.

Diagram C surveys the food expenditure of each of these 80 families in the two years. It pictures their outlay on food per person in 1946 and 1947, and the size and structure of each family in 1947, the structure being indicated by the family's group number. Group 1 is the group of the lowest ' man ' values per person, ranging from 0.62 to 0.66, and group 7 the group with the highest ' man ' values, ranging from 0.92 to 0.95. Group 1 therefore has the largest proportion of young children per family, and group 7 the largest proportion of adults. Since diagram C is drawn on logarithmic scales, the diagonal which cuts through the intersection of the lines of average outlay per person in 1946 and 1947 at an angle of 45 degrees, gives for all figures of expenditure in 1946 the rise in outlay corresponding to the average rise of 6.3 per cent. The inner side of the left-hand vertical scale in the Diagram has been marked off so as to show for different ' man ' values the range of food expenditure per person that approximately corresponds to the average weekly food expenditure per ' man ' of the 80 families in 1947, of 15s. 2¾d. Thus, this average outlay of 15s. 2¾d. per ' man ' per week was attained by the families in group 1 with a weekly food expenditure per person of from 9s. 4½d. to 10s. 3d., while for the families in group 7 the expenditure required ranged from 13s. 4½d. to 14s. 6¼d.

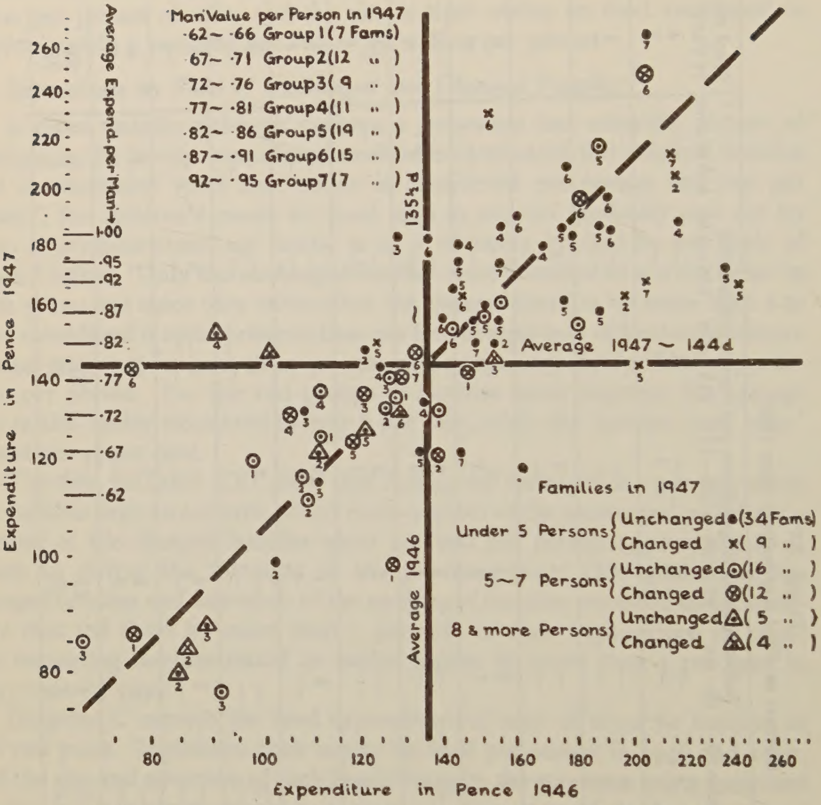
TABLE XVI

Changes in Food Expenditure since 1946

Food Expend. 1947 per Pers. per Week	Group of Families	Index of Food Expenditure per Person (1946=100) under 85	85—94	95—104	105—114	115—124	125—134	135 & over	Total No. of Fams.
Under 8s.	Unchanged	1	—	2	—	1	—	—	4
	Changed	—	—	*1*	*1*	—	—	—	*2*
8s.—9s.	Unchanged	—	—	1	—	—	—	—	1
	Changed	*1*	—	—	—	—	—	—	*1*
9s.—10s.	Unchanged	—	—	2	1	—	1	—	4
	Changed	—	—	—	—	—	—	—	—
10s.—11s.	Unchanged	1	2	3	—	1	—	—	7
	Changed	—	*1*	*1*	*1*	*1*	—	—	*4*
11s.—12s.	Unchanged	—	—	2	3	—	—	1	6
	Changed	*1*	—	*1*	*2*	—	—	*1*	*5*
12s.—13s.	Unchanged	1	—	5	2	1	—	1	10
	Changed	—	—	*1*	*1*	*1*	—	*1*	*4*
13s.—14s.	Unchanged	1	1	1	1	1	—	—	5
	Changed	*3*	—	—	*1*	—	—	—	*4*
14s.—15s.	Unchanged	1	—	—	2	2	—	—	5
	Changed	—	—	—	—	—	—	—	—
15s.—16s.	Unchanged	—	1	4	—	2	1	1	9
	Changed	—	—	—	—	—	—	—	—
16s. and over	Unchanged	—	—	1	—	2	1	—	4
	Changed	—	—	*2*	*1*	—	—	*2*	*5*
Total	Unchanged	5	4	21	9	10	3	3	55
	Changed	*5*	*1*	*6*	*7*	*2*	—	*4*	*25*

Diagram C

Expenditure on Food of 90 Families in 1946 and 1947



Outlay in pence: 1946 horizontal, 1947 vertical. Logarithmic scales.

(*c*) *Low Expenditure on Food and High Earnings*

The lowest expenditure on food, per ' man ' and per person, was registered by families clustering in the left-hand bottom corner of Diagram C. Since a low expenditure on food in both years suggested conditions of considerable poverty, we have investigated in some detail the expenditure patterns of those 13 families that as well as having a low food expenditure per person showed the lowest outlay on food per ' man ' in 1947. The results were to some extent surprising ; they are summarized in Table XVII. The figures in the ' man ' value group of Table XVII correspond to those used in Diagram C; together with the figures of outlay on food in 1947, and taking into account the distinction in both the Table and the Diagram between the *unchanged* and the *changed* families, they make it easy to trace in the Diagram each of the 13 families.

Although some of the families were very large, the housekeeping money

Table XVII

13 Families with Low Expenditure on Food

Size of Families		'*Man*' *Value Group*[1]	Unch. or Chgd. Fam.	Total No. of Persons	Earners over 18		Earners 16—18		Earners 15—16
					Male	Female	Male	Female	
8 and more Persons	(1)	*2*	U.	8	1	–	–	1	1
	(2)	*2*	Ch.	11	1	–	1	1	1
	(3)	*3*	U.	9	1	–	–	1	–
	(4)	*5*	U.	9	2	2	–	1	–
	(5)	*6*	Ch.	10	3	3	–	1	–
5–7 Persons	(6)	*3*	U.	6	1	–	–	1	–
	(7)	*3*	U.	6	1	–	–	1	–
	(8)	*1*	Ch.	7	1	–	–	–	–
	(9)	*5*	Ch.	7	3	–	–	1	–
	(10)	*7*	Ch.	5	2	1	1	–	–
Less than 5 Persons	(11)	*2*	U.	4	1	–	–	–	–
	(12)	*5*	U.	4	1	–	–	1	–
	(13)	*7*	U.	4	2	–	–	–	–

Household Expenditure in 1947

		Weekly Outlay on Food per Person		Weekly Outlay on Food per 'Man'		Total H'keep'g Money p. Wk.[2]		% of Housekeeping Money spent on: Food	Housing	Fuel & Light	Clothing	Other
		s.	d.	s.	d.	s.	d.					
8 and more Persons	(1)	6	8¼	9	5¼	142	6	37.5	3.5	8.6	5.1	45.3
	(2)	7	0¼	9	10	148	5	52.0	8.6	8.1	4.7	26.6[3]
	(3)	7	4¼	10	0½	168	0	39.4	7.3	3.4	13.1	36.8
	(4)[4]	10	6	12	6	210	0	45.0	—	5.3	11.2	38.5
	(5)	10	11¾	12	8½	251	0	43.7	6.6	3.6	16.5	29.6
5–7 Persons	(6)	6	5¾	8	7¾	120	0	35.4	15.4	4.3	5.0	42.9
	(7)	7	1	9	9¾	117	0	36.3	9.7	6.9	1.3	45.8
	(8)	7	2¼	11	8	80	0	62.8	16.5	9.0	—	11.7
	(9)	10	5¼	12	2¼	150	0	48.7	13.0	10.1	4.8	23.4
	(10)	11	8	12	5	141	9	41.2	14.5	8.8	19.1	16.4
Less than5 Persons	(11)	8	3½	12	4½	74	4	44.6	15.9	7.5	1.3	30.7
	(12)	10	1½	11	10¾	49	10[5]	82.6	—	0.5	1.0	15.9
	(13)	10	1½	10	11¼	137	1[6]	29.5	3.9	3.9	12.9	49.8

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[1] The figures in this column correspond to those in Diagram C.
[2] Including all children's allowances.
[3] 10s. per week spent on instalments for furniture.
[4] 15 meals per week free at school. [5] Weekly net income 220s.
[6] Weekly net income 209s.

including the children's allowances was in the case of most of the families not unduly low. Eleven of the thirteen families had more than one earner, and five of them had more than one male earner over 18 years old. According to the information supplied by our Visitors, families Nos. (2), (6), and (8) were very poor. Families Nos. (12) and (13)—the only ones of the thirteen families that stated their full income—recorded each a weekly net earnings of well over £10; both these families were described as 'very thrifty'. These two were also the only families that had productive gardens from which they obtained substantial quantities of fresh vegetables and some fruit. Family No. (7) kept hens and obtained from them 10 eggs per week. Free meals at school were received by 3 children of family No. (4). The only family that had an expenditure on instalments was No. (2), their outlay on these amounting to 10s. per week.

(*d*) *Relative Distribution of the Outlay on Food*

Table XVIII shows the relative distribution of the outlay on food. The general pattern of this distribution stands out well, repeating itself fairly distinctly in each of the sub-groups of families. In 1947, both the *unchanged* and the *changed* families spent on the average on dairy produce, groceries, and potatoes a slightly smaller proportion of their outlay on food than in 1946, which is what one would have expected, since in all these food groups some prices were lower in 1947 than in 1946. Some of the accounts in 1947 were kept during a slightly later period than the accounts in 1946; hence the average price paid for potatoes in 1947 was below that in 1946.[1] Outlay on sugar represented about one quarter of the outlay on the group of specified groceries (preserves, syrup and treacle, sugar, tea, and cocoa) in 1946, but only between a fifth and a sixth of that outlay in 1947; this reflects the reduced cost of sugar, which from the summer of 1946 to the summer of 1947 had gone down by a penny a lb. Expenditure on special milk supplied under the Government scheme, mainly to children, and on butter, took up about a quarter of the outlay on dairy produce in 1946, and between a fifth and a sixth of that outlay in 1947. Butter was 2d. a lb. cheaper in 1947 than in 1946, and there was also a reduction in the cost of all special milk. Until July 21st, 1946, milk at school had to be paid for by all but the poorest children, at ½d. for a third of a pint; after that date it was given free to all the children. From

TABLE XVIII

Relative Expenditure on Food

	Unchanged Families (55)		Changed Families (25)		New Fams. (83)	All Fams. (163)
	1946	1947	1946	1947	1947	1947
Bread and Cereals[1]	15.1	15.8	15.7	16.1	16.7	16.3
Fats[2]	0.7	0.5	0.6	0.7	0.6	0.6
Meat and Meat Products[3] ...	18.5	16.9	17.2	19.2	18.2	17.9
Fish[4]	4.4	4.3	5.3	3.8	4.1	4.1
Dairy Produce[5]	19.0	17.4	18.4	17.9	18.2	17.9
Groceries[6]	8.3	7.9	8.0	7.2	8.3	8.0
Potatoes	5.8	4.9	6.7	4.8	4.3	4.6
Other Vegetables and Fruit[7] ...	14.5	15.1	11.9	15.4	13.2	14.2
Other Foods[8]	13.7	17.2	16.2	14.9	16.4	16.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

[1] Including flour, cake, biscuits, breakfast cereals, oatmeal and rolled oats, semolina, macaroni, etc.

[2] Cooking fat, lard, suet, dripping.

[3] Butcher's meat, bacon, cooked, tinned, and potted meat, offals, sausage and sausage meat, meat pies, fowls, rabbits.

[4] Wet, cured, fried, tinned.

[5] Butter, margarine, milk, cheese, eggs (in shell and dried).

[6] Sugar, tea, cocoa, jam, marmalade, syrup, honey.

[7] Including dried legumes, tinned and bottled vegetables and fruit, and dried fruit.

[8] Including meals bought away from home, fancy foods, sweets, and condiments.

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[1] In 1947, a lb. cost slightly less than 2d., and in 1946, it cost about 2½d. The average consumption per ' man ' per week of all the families in 1947 was 76 oz., while that of the *unchanged* and *changed* families only amounted to 71 oz. in 1947 and to 74 oz. in 1946.

July 22nd, 1946, the price of milk available under the Government scheme to children under 5 years old and to expectant mothers[1] had been reduced from 2d. to 1½d. a pint. The fall in the cost of milk came too late to have much effect on the household outlay as recorded for us in 1946; but it reduced the expenditure on this food in 1947. Since, however, the figures of actual average outlay on food were higher for 1947 than for 1946, the decline in expenditure on dairy produce, groceries, and potatoes was less than the relative figures in Table XVIII might suggest.

More was spent in 1947 on the main cereal foods and on the group of fruit and vegetables other than potatoes, the increased outlay being due mainly to rises in the prices of cereals and of certain dried fruits. But it also appeared that somewhat larger purchases of fresh fruit had been made during the period of our survey in 1947 than during that in 1946, mainly, no doubt, because in 1947 fruit was much more plentiful. The outlay on ' other foods ' of the *changed* families was relatively low in 1947; but since the earners of these families bought, per family per week, two more dinners away from home in 1947 than in 1946, for which no outlay was stated, and in addition to this probably also more subsidiary meals—if only because these families had half an earner per family more in 1947 than in 1946—this relative decline is unlikely to indicate any substantial fall in consumption.

(2) The Consumption of Food

(*a*) *Foods Rationed Specifically*

Food rationing was fairly comprehensive in 1946 and it was even more far-reaching in 1947. In both years, eight main foods were rationed specifically, *viz.*, meat, bacon, fats, tea, sugar, jam, cheese, and eggs, the consumer, however, being left free to exchange his butter ration for margarine and his jam ration for sugar, in each case weight for weight. Occasionally, the fat ration could be supplemented to a small extent with unrationed dripping or with suet rationed on ' points '. It also was possible to purchase on ' points ' tinned imported marmalade and jams. Table XIX gives the weekly rations of specific foods available to adults in 1946 and 1947, between June and August. It was not possible in every instance to state a precise figure, because in 1946 changes were made in the meat ration and in the tea ration, and there were also in both years special issues of sugar for jam-making during the period surveyed by us. Eggs were available to the ordinary consumer according to the general supply, and the actual average allowance during the whole period was probably in both years somewhat less than one egg per adult per week.

In Table XX are shown the approximate quantities of specifically rationed foods that were obtained by the families of our sample, per adult ration book per week. These quantities correspond to the average consumption per person per week, except as regards meat and tea. In both years children under 5 years of age were allowed no tea ration and only half of an adult's

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[1] One pint per day.

Table XIX

Average Weekly Rations: June to August

	Per Adult Ration Book	
	1946	1947
Meat	1s. 2d.	1s. 3d.[1]
Bacon	3 oz.	2 oz.
Total Fats	7 oz.	7 oz.
Butter only	*3 oz.*	*3 oz.*
Tea	2½ oz.[2]	2½ oz.[2]
Sugar	12 oz.[3]	12 oz.[3]
Jam	4 oz.	4 oz.
Cheese	2 oz.	2 oz.
Eggs (shell)	1 egg[4]	1 egg[4]

[1] Approximately. Until July 12th, the ration was 1s. 4d. worth of meat and after that date it was 1s. 2d. worth of it.

[2] Approximately. For the 4 weeks beginning on July 22nd, 1946, the ration was 3 oz. per week; before that date it had been 2 oz. In 1947 the allowance was 8 oz. and 12 oz. for alternate 4-weekly periods.

[3] Approximately. The ordinary ration was 8 oz., but a special issue of sugar was made available in 1946 and 1947. [4] Approximately.

Table XX

Weekly Consumption of Specifically Rationed Foods

	Per Adult Ration Book					
	Unchanged Fams. (55)		Changed Fams. (25)		New Fams. (83)	All Fams. (163)
	1946	1947	1946	1947	1947	1947
Meat[1]	1s. 4¾d.	1s. 5½d.	1s. 4d	1s. 5½d	1s. 5¾d.	1s. 5½d.
Bacon	3.0 oz.	1.9 oz.	2.8 oz.	2.0 oz.	2.0 oz.	2.0 oz.
Total Rationed Fats[2]	7.0 oz.	7.0 oz.	7.0 oz.	6.9 oz.	6.9 oz.	7.0 oz.
Butter only ...	*2.8 oz.*	*2.6 oz.*	*2.8 oz.*	*2.6 oz.*	*2.8 oz.*	*2.7 oz.*
Unrationed Fats[3] ...	0.3 oz.	0.1 oz.	0.3 oz.	0.2 oz.	0.1 oz.	0.1 oz.
Tea	2.4 oz.	2.3 oz.	2.2 oz.	2.2 oz.	2.5 oz.	2.4 oz.
Sugar...	10.8 oz.	11.0 oz.	9.8 oz.	9.8 oz.	11.0 oz.	10.8 oz.
Jam[4]	3.5 oz.	3.8 oz.	3.7 oz.	3.5 oz.	3.6 oz.	3.7 oz.
Cheese[5]	2.0 oz.	2.1 oz.	1.9 oz.	1.9 oz.	2.0 oz.	2.0 oz.
Shell eggs, bought[6]	1.0 egg	1.2 egg	1.1 egg	1.5 egg	1.3 egg	1.3 egg
Do., from own hens	0.5 egg	0.6 egg	0.3 egg	—	0.2 egg	0.3 egg

[1] Including offals, but excluding cooked and tinned meal products, and sausages and sausage meat.

[2] Butter, margarine, lard, and cooking fat. [3] Including suet (rationed on 'points').

[4] Including honey, and jams and marmalade rationed on 'points'.

[5] Excluding the following special rations. Unchanged families, 1946, 6; 1947, 6. Changed families, 1946, 3; 1947, 1. New Families, 13.

[6] The figures represent the numbers of eggs bought per ration book per week; no correction has been made for special allowances of eggs to infants, expectant mothers, and invalids.

meat ration. The outlay given for meat in Table XX includes the expenditure on unrationed butcher's meat and in particular on offals, since it was impossible for us to separate these figures; but it excludes the outlay on sausages and sausage meat. An average surplus outlay, above the ration, of about 2½d. per adult ration book per week seems rather high, considering the shortage of offals in both 1946 and 1947, but since cuts of meat cannot be balanced precisely against the ration allowance and no housewife will willingly accept less than this, a certain amount of overweight, as compared with the weight that could be obtained with the outlay allowed per ration, is probably inevitable.

The average quantities of jam in Table XX include all jam and marmalade bought on ' points '; in this case, too, the details supplied to us were insufficient to allow of our distinguishing between two different types of purchases, but the amounts purchased on ' points ' appeared to be relatively very small. It will be seen that in no instance the combined figures of sugar and jam add up to a lb. The figure for these foods of 16 oz. per ration book per week in Table XIX is, however, only approximate; the special issue of preserving sugar, of 1 lb. per ration book per 4-weekly period, started in both years before the fortnight during which the majority of the housewives kept their accounts for us. Hence the average allowance of sugar available during the fortnight covered by the accounts was probably less than 12 oz., as some of the housewives most likely bought their special allowance in full as soon as it was possible to do so. As far as we could ascertain, all the families of our sample were in the habit of their full combined ration of sugar and jam, some of them purchasing part or all of their jam ration in the form of sugar.

Special supplies of eggs were issued for infants, expectant mothers, and invalids. Only one person each of these two latter categories was represented in our sample, but there were in 1947, 53 children under 2 years old and 73 between 2 and 5 years old, the former being entitled to 3 eggs per week and the latter, as well as the expectant mother and the invalid, to one additional egg at each issue. No correction has been made for this; neither could we distinguish between home produced eggs for which the egg ration had been surrendered and those for which this had not been done, these latter eggs being obtained from hens maintained exclusively on unrationed feeding stuffs. The numbers of eggs in Table XX therefore simply represent the total numbers of eggs per week divided by the total numbers of persons in each group.

The decline in the consumption of bacon was due to the reduction in the ration from 3 ounces per person per week to 2 ounces.[1] Practically all the families of our samples for 1947 purchased their full fat ration, but 22 of them substituted margarine for part of their allowance of butter. Of these 22 families, only 12 had a food expenditure per ' man ' below the average, the remaining 10 families spending on food per ' man ' per week from a few pence over 15s. to nearly 22s. Most of the families that bought less than their full ration of butter recorded a relatively large outlay on meat products and fish.

(*b*) *Foods Rationed on ' Points '*

In both years, children were allowed the same number of food ' points ' as adults. Before the introduction of bread rationing, on July 21st, 1946, 6 ' points ' were available per ration book per week, and 8 ' points ' after that date. Moreover, during the first months of bread rationing, Bread Units and ' points ' were interchangeable at any food office. The allowance of ' points ' remained unaltered until August 17th, 1947, but in 1947 it was no longer possible to obtain ' points ' for B.Us. Since, however, with the introduction of bread rationing all cereal foods were placed on 'points', including those that before had been unrationed, and since, further, the ' points ' value of foods was modified frequently, and often very substantially, during the twelve-month period separating our two surveys, changes in the numerical size of the ' points ' ration only played a minor role in the shaping of the pattern of consumption of the foods rationed on points.

The main foods that were rationed on points in the summer of 1947 are set out in Table XXI; the purchases are given per person per week. Rolled oats were unrationed in 1946, but about as much of them seem to have been

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[1] From January 5th, 1947.

TABLE XXI

Weekly Consumption of Foods Rationed on 'Points'

	Per Person					
	Unchanged Fams. (55)		Changed Fams. (25)		New Fams. (83)	All Fams. (163)
	1946	1947	1946	1947	1947	1947
Cooked Meat[1] ...	0.6 oz.	0.3 oz.	0.3 oz.	0.5 oz.	0.5 oz.	0.4 oz.
Tinned Meat & Fish[2]	1¼d.	*2d.*	*1¾d.*	*2½d.*	*1¾d.*	*2d.*
Dried Eggs	0.5 egg[3]	0.3 egg[3]	0.8 egg[3]	0.6 egg[3]	0.5 egg[3]	0.4 egg[3]
Tinned Peas & Beans	*1d.*	*1½d.*	*½d.*	*1d.*	*1¼d.*	*1¼d.*
Dried Peas ...	0.5 oz.	0.7 oz.	0.3 oz.	1.8 oz.	0.6 oz.	0.8 oz.
Milk, tinned[4] ...	0.2 pt.[5]	0.2 pt.[5]	0.2 pt.[5]	0.1 pt.[5]	0.1 pt.[5]	0.1 pt.[5]
Rolled Oats	0.7 oz.	0.8 oz.	0.8 oz.	0.6 oz.	1.1 oz.	0.9 oz.
Cereals[6]	1.4 oz.	1.7 oz.	1.4 oz.	1.3 oz.	1.8 oz.	1.7 oz.
Biscuits	1.6 oz.	2.0 oz.	1.7 oz.	1.9 oz.	1.6 oz.	1.8 oz.
Dried Fruit ...	1.2 oz.	1.2 oz.	1.8 oz.	1.2 oz.	1.2 oz.	1.2 oz.
Syrup and Treacle ...	0.7 oz.	1.1 oz.	0.9 oz.	0.6 oz.	1.0 oz.	1.0 oz.

[1] Including small quantities of unrationed ham and tongue.

[2] This group overlaps with the preceding one. It also includes tinned mixtures of meat and vegetables.

[3] Equivalent. [4] Including dried Household milk.

[5] Approximately, in terms of fresh milk (unskimmed and skimmed).

[6] Mainly ready-to-eat breakfast cereals, but also including semolina, macaroni, and similar products.

bought by the families of our sample in 1947 as in 1946. If we consider the purchases of the *unchanged* families only we notice slight increases in the consumption of carbohydrate foods—all cereals, biscuits, and syrup and treacle—and of tinned and dried legumes. Their average consumption of tinned fish and of all meat products rationed on points, taken together, was probably fairly similar in both years. Less dried egg was bought by the *unchanged* as well as by the *changed* families in 1947 than in 1946; but large-scale surveys of the consumption of groceries undertaken by us have clearly indicated that purchases of dried eggs tend to move conversely to the supply of eggs in shell, and, as the figures in Table XX have shown, slightly more eggs in shell were available in 1947 than in 1946.

No explanation can be offered for the very large increase in the average consumption of dried peas by the *changed* families. In 1946, only 2 of the 25 families bought dried peas during the fortnight covered by the accounts, one family one lb. per week and the other two lbs., while in 1947 purchases were made by 4 families, one of them, consisting of 4 persons, consuming as much as 4½ lbs. per week. We suspected that some of the peas might have been used for animal feeding; but it was found that the family kept neither pigeons nor hens. No dried legumes other than peas were purchased by any of the families of our samples for 1946 or 1947.

The purchases of foods rationed on points, together with the purchases of two unrationed foods—unrationed fish, including fried fish, and cocoa—are considered from a different angle in Tables XXII and XXIII. From the data in Table XXII there emerges a distinct pattern of relative demand for these several foods. Those in demand by the largest proportion of families in all the three groups were unrationed fish, tinned fish and meat products

TABLE XXII

Numbers of Families Purchasing Certain Foods

	As Percentage of Total Number of Families in Group of					
	55 Unchanged Families		25 Changed Families		83 New Fams.	163 Fams. Fams
	1946	1947	1946	1947	1947	1947
	%	%	%	%	%	%
Fish, unrationed[1] ...	89	85	76	80	84	84
Meat and Fish on 'points' ...	76	65	68	88	63	67
Eggs, dried	29	22	40	40	30	29
Milk, tinned ...	31	38	36	28	35	35
Milk, Household ...	11	5	12	—	—	2
Dried Peas ...	16	27	8	32	23	26
Rolled Oats	18	22	20	12	25	22
Biscuits	64	78	76	68	72	73
Cocoa	29	15	28	16	20	18
Dried Fruit ...	49	44	60	40	49	46
Syrup and Treacle ...	27	31	28	24	36	33

[1] Including fried fish.

rationed on points, and biscuits, which, on the average, were purchased by between two-thirds and three-quarters of the families. From about a third to half of the families bought dried fruit, tinned milk, and syrup and treacle. The demand was less clearly defined for a number of other foods; but some allowance must be made for the fact that since all the figures in Table XXII are percentages, differences are magnified with respect to the small group of 25 *changed* families. The decline from 1946 to 1947 in the number of families buying cocoa was probably due to two related causes : first, since the end of 1946 cocoa had become somewhat scarce, and, secondly, while the price of the main brands had risen the cheaper qualities of cocoa had almost vanished from the market. In 1946, the average price paid for cocoa by the families of our sample had been 1s. 5d. a lb. ; the price paid by the families in 1947 amounted to slightly over 2s. Household milk was unrationed in 1947, but only stocks left in the hands of the retailers were still being sold, and only 3 of the 163 families bought any during the period of our survey.

In comparing the figures of consumption per family per week in Table XXIII it should be remembered that in 1946 the *changed* families numbered half a person and in 1947 one person more than the *unchanged* families, while the *new* families were half a person larger than the *unchanged* families but half a person smaller than the *changed* families in 1947. It will, however, be seen that not in all instances the larger average quantities were bought by the largest average families; yet, on the whole, some general pattern of consumption is at least sketched, if not clearly outlined, by the data in Table XXIII, in particular if we only compare the figures relating to the purchases made by the *unchanged* families in 1947 and by the *new* families.

(*c*) *Foods Rationed on B.Us.*

The rationing of bread, flour, cake, and buns began on July 21st, 1946. It had no noticeable effect on the consumption of these foods as recorded in the household accounts for 1946, for although a few accounts extended beyond that date, the rationing was widely ineffective for several weeks after

TABLE XXIII

Weekly Consumption of Certain Foods

	Per Family Actually Purchasing						
	Unit	Unchanged Families		Changed Families		New Fams.	All Fams.
		1946	1947	1946	1947	1947	1947
Fish, unrationed[1]	oz.	30.0	31.9	42.8	33.1	33.8	33.0
Meat and Fish on 'points'	*d.*	*15*	*18*	*18*	*21½*	*23½*	*21¼*
Eggs, dried[2]	egg[3]	7.9	7.0	9.6	9.0	8.1	7.8
Milk, tinned	tin	0.9	1.1	1.1	1.4	1.2	1.2
Milk, Household[4]... ...	pint[3]	3.3	4.0	2.0	—	—	4.0
Dried Peas	oz.	15.1	12.3	20.0	31.0	13.3	16.3
Rolled Cats	oz.	18.4	16.7	20.8	29.3	22.9	21.3
Biscuits	oz.	11.4	11.8	11.3	15.5	11.1	12.0
Cocoa	oz.	4.9	4.5	6.3	6.0	4.2	4.6
Dried Fruit	oz.	11.1	12.3	15.2	16.8	12.8	13.2
Syrup and Treacle ...	oz.	11.7	16.5	16.0	14.7	14.4	15.9

[1] Including fried fish. [2] One packet equals 12 eggs in shell. [3] Equivalent.
[4] One tin equals 4 pints of fresh milk (skimmed).

its introduction, and the housewives stated that their bakers did not 'bother' about B.Us. In the summer of 1947, however, the rationing of these foods was established. Hence it is of considerable interest to consider the consumption of them during the sampling periods in the two years.

In Table XXIV are set out the quantities of bread, flour, cake, and buns obtained per person per week by the families of our sample in 1946 and 1947. Table XXV shows the number of B.Us' required for a given quantity of these foods, while in Table XXVI the figures of consumption in 1946 and 1947 are translated into B.U. requirements per family per week and compared with the ordinary weekly allowance of B.Us. per average family, of the *unchanged* and of all the families. In terms of B.Us., the consumption of the *unchanged* families was slightly higher in 1947 than in 1946, so that, as regards these families, no saving in flour was effected through rationing.[1] The figures of consumption in terms of B.Us. indicate that in addition to their ordinary allowance of B.Us, each family consumed on the average bread and flour equivalent to another 11 B.Us. per week. All the families of our sample were, however, in receipt of some special allowances of B.Us. for manual workers, amounting to 6 B.Us. per week for a man or boy and 2 B.Us. for a woman or girl. The precise amount of these allowances could not be calculated by us, since it was not always clear whether or not a son or daughter belonged to the category of 'manual workers'. At most, however, the *unchanged* families could have obtained only about 8 additional B.Us. and all the 163 families taken together about 9 B.Us. per family per week. This

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[1] The figures of weekly consumption in terms of B.Us. for the *changed* and the *new* families were as follows :

	Changed Families		*New Fams.*
	1946	1947	1947
Persons per family	5.12	5.60	5.10
B.Us. allowed } per family	48.2	52.3	56.5
B.Us. consumed } per week	68.6	64.8	46.9

TABLE XXIV

Weekly Consumption of Foods Rationed on Bread Units

	Ounces per Person Unchanged Fams. (55)		Changed Fams. (25)		New Fams. (83)	All Fams. (163)
	1946	1947	1946	1947	1947	1947
Bread	68.3	73.6	76.6	67.3	66.3	68.7
Flour	7.6	4.6	9.1	6.1	4.8	4.9
Cake and Buns ...	5.5	5.7	6.1	6.6	7.3	6.7

TABLE XXV

Value of Bread Units

	oz.	B. lb.
Bread	14	2
Cake and Buns ...	16	2
Flour	16	3

TABLE XXVI

Allowances and Expenditure of Bread Units

Age Group (years)	B.Us. Allowed per Week (Ord. Rat.)	Unchanged Fams. (55) 1946	1947	All Fams. (163) 1947
		Persons per Family		
Under 4 ...	5	0.51	0.36	0.50
4—11 ...	9	0.91	0.96	1.17
11—18 ...	13	1.04	1.10	0.95
Over 18 ...	9	2.18	2.22	2.40
Total No. of Persons		4.64	4.64	5.02
B.Us. allowed	per Family	43.9	44.7	47.0
B.Us. consumed	per Week	55.1	56.1	58.1

suggests that one small loaf of 14 oz. was purchased for every 5 persons per week without the surrender of B.Us.[1]

The similarity of the figures for the *unchanged* families in both years, and for all the families of the sample in 1947, suggests that for working-class families of a structure similar to that of the families of our sample the figures of consumption were fairly typical. If that was the case, and if, therefore, the rationing of flour and flour products did not curtail their consumption of these foods, as compared with their pre-rationing consumption, it follows that all the saving of flour that was effected must have been imposed upon other families,[2] whose average consumption must have been curtailed by far more than the 5 or 6 per cent that were officially stated to have been the overall saving.

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[1] As long as bread rationing lasted it was possible to obtain B.Us. against the surrender of an equal number of ' points '; but none of the families of our sample effected such an exchange.

[2] Except in so far as reduced supplies to canteens and similar places affected the consumption of flour of the families of our sample.

(*d*) *Milk and Meals Out*

The consumption of milk is broadly surveyed in Table XXVII; it will be considered more fully in the Appendix. It should be noticed that the figures of total average consumption in Table XXVII include the consumption of both Government milk and school milk, the former being supplied under the Government scheme to children under 5 years old and to expectant mothers, and the latter to children at school. Of Government milk, one pint was available per day to those entitled to it, while a third of a pint per day, or more, was obtained by most of the children at school. In 1946, most of the families in receipt of Government milk paid 2d. a pint for it, while in 1947 it only cost 1½d. a pint. Milk at school was free to all children in 1947, while in 1946 only 21 of the 112 children at school, of the *unchanged* and the *changed* families, obtained their milk free, the other children who took it paying for it at the rate of 1½d. per pint. Government milk was supplied free to 2 children of one *unchanged* family in 1946 and to one child of a *new* family in 1947.

TABLE XXVII

Weekly Consumption of Fresh Milk

	Pints per Person					
	Unchanged Fams. (55)		Changed Fams. (25)		New Fams. (83)	All Fams. (163)
	1946	1947	1946	1947	1947	1947
Total	4.6	4.2	4.1	4.1	4.7	4.4
Of this:						
Ordinary	*2.7*	*2.8*	*2.8*	*2.8*	*2.9*	*2.8*
Government ...	*1.1*	*0.9*	*1.0*	*0.9*	*1.2*	*1.0*
School	*0.8*	*0.5*	*0.3*	*0.4*	*0.6*	*0.5*

The average number of midday meals consumed at school per child attending it are given in Table XXVIII, together with the weekly number of main meals consumed per adult at work, women working part-time having been counted as half an earner. For the *unchanged* families, the number of meals per adult at work was approximately 50 per cent higher in 1947 than in 1946, amounting in 1947 to about 2¼ meals per week. The number of meals per child at school of these families was nearly the same in both years, but only about one-fifth of the meals were obtained free in 1947 as against

TABLE XXVIII

Main Meals Away from Home

Group of Families		No. of Meals per Week			Av. Price per Meal Bought		
		Per Person at Work	Per Child at School		Earner		Child
			Bought	Free	s.	d.	d.
Unchanged	1946 ...	1.5	1.9	1.1	1	1½	5
	1947 ...	2.2	2.3	0.6	1	6	5½
Changed	1946 ...	1.5	1.5	0.7	1	4	4½
	1947 ...	1.2	3.4	—	1	5	4½
New	1947 ...	2.1	1.6	1.4	1	5	5
All	1947 ...	1.9	2.0	1.0	1	5¼	5

two-fifths in 1946. The earners of all the families in 1947 bought on the average about 2 main meals each per week, while the children at school of all the families had each on the average 3 midday meals per week at school, one of these meals being given free. The average price of the meals at school for which payment was made was 5d. per meal, while the earners' meals cost slightly over 1s. 5d. each. The cost of a luncheon or dinner at the works canteen was usually less than this, but some of the housewives explained that the earners of their families did not like these meals and purchased their dinners elsewhere. In some instances no canteen or British Restaurant may have been available. The prices paid for main meals eaten regularly in cafés and similar places varied from 1s. 8d. to 2s. 6d. per meal.[1]

(3) NUTRITIONAL INTAKE

(*a*) *Intake in* 1946 *and* 1947

The average nutritional intake from the diets purchased by the households of our sample has been calculated by us by means of scales recommended by the Ministry of Health, for calories and for protein. The standard daily requirements laid down for an adult male are 3,000 calories and 70 grammes of protein. The requirements of other age and sex groups are given in Table XXIX, expressed as indices based on these standard figures. It will be noticed that the highest requirements for protein are found in the age groups from 12 years to 21 years, no differences being shown in the scale between the average needs of boys and of girls, although in practice such differences probably exist. However that may be, it is immaterial for our purpose, since in any case our figures of nutritional intake—being derived only from quantities of foods as purchased and not of diets as cooked and eaten—can only claim to be approximations.

TABLE XXIX

Nutritional Requirements

Absolute Requirements per Day	Calories	Protein gm.
Male, 21 years and over	3,000	70
Relative Requirements	Calories	Protein
Male, 21 years and over	1.00	1.00
Female, 21 years and over	0.83	0.86
Juveniles and Children		
17 years—21 years	1.00	1.29
15 years—17 years	1.00	1.43
12 years—15 years	0.97	1.36
7 years—12 years	0.70	0.93
3 years—7 years	0.50	0.71
1 year—3 years	0.37	0.60
6 months—12 months	0.27	0.33
Under 6 months	0.20	0.26

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[1] In one or two instances, more than this was paid for an occasional meal purchased on a holiday.

The intake available per ' male adult equivalent '[1] per day is given in Table XXX. It will be seen that all our figures of average nutritional intake are above the corresponding figures of standard requirements, for calories as well as for protein. The decline from 1946 to 1947 in the average intake of the 25 *changed* families, of calories and of second-class protein, was brought about mainly by a reduced average intake of bread and flour. The data at our disposal do not enable us to say whether this decline in consumption was merely the result of rationing or whether it reflects at least in part reduced nutritional needs. It is, however, possible that the *changed* families, which were larger by half a person per family in 1947 than in 1946, contained in 1947 proportionately fewer heavy workers, *i.e.*, fewer people with exceptionally large requirements for calorific foods. The relatively high intake of animal protein by the *new* families, as compared with the average intake by the other groups of families, cannot be traced back to a single direct cause; but there may have been one main indirect cause for it, namely the fact that these families contained the largest proportion of young children. Hence they not only obtained the largest quantities of milk per ' male adult equivalent ' but they also had the highest average consumption of certain first-class protein foods rationed on ' points ', since they had at their disposal the largest number of ' points ' per ' male adult equivalent '.

TABLE XXX

Nutritional Intake

Per Male Adult Equivalent per Day		Calories	Protein total	(grammes) animal
Average Requirements :		*3,000*	*70*	—[1]
Intake				
Unchanged Fams.	1946	3,250	91	41
	1947	3,350	93	40
Changed Fams.	1946	3,400	97	40
	1947	3,150	91	39
New Fams.	1947	3,500	97	44
All Fams.	1947	3,400	94	42

[1] Not given.

(*b*) *Nutritional Values and Cost of Different Diets*

The several categories of rationed and unrationed foods, and the nutritional intake derived from them, are shown in Tables XXXI A, B, and C. The important role played by the foods rationed on B.Us. springs at once to the eye; these foods supplied on the average about a third of the total calorific intake and well over a third of the total intake of protein. The supply of animal protein was derived in nearly equal parts from all the rationed foods excluding the foods rationed on B.Us., from fresh milk, and from unrationed foods—these latter being mainly fish, unrationed meat products, and meals away from home.

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[1] In previous papers the term used was ' per man '. Since, however, these nutritional ' man ' values were liable to be confused with our cost ' man ' values, employed in this as in all the preceding papers in this series, we decided to replace ' man ' by ' male adult equivalent ' whenever we are referring to the unit of nutritional intake.

TABLE XXXIA
Calorific Intake from Different Diets

	Per Male Adult Equivalent per Day 80 Unchanged 1946	Families 1947	163 Fams. 1947	Low cost diet April 1948
Specifically Rat. Foods	890	860	880	815
Foods Rationed on ' Points ' ...	125	145	150	505
Foods Rationed on B.Us. ...	1,110	1,095	1,100	1,055
Fresh Milk (incl. School Milk) ...	295	265	290	265
Potatoes	165	160	170	145
Other Foods	665	825	810	215
Total	3,250	3,350	3,400	3,000

TABLE XXXIB
Total Intake of Protein from Different Diets

	Grammes per Male Adult Equivalent per Day 80 Unchanged 1946	Families 1947	163 Fams. 1947	Low cost diet April 1948
Specifically Rat. Foods	14	14	14	11
Foods Rationed on ' Points ' ...	3	3	3	16
Foods Rationed on B.Us. ...	35	35	34	30
Fresh Milk (incl. School Milk) ...	13	12	13	12
Potatoes	4	4	5	3
Other Foods	22	25	25	12
Total	91	93	94	84

TABLE XXXIC
Intake of Animal Protein from Different Diets

	Grammes per Male Adult Equivalent per Day 80 Unchanged 1946	Families 1947	163 Fams. 1947	Low cost diet April 1948
Specifically Rat. Foods	13.6	13.5	13.7	11.2
Foods Rationed on ' Points ' ...	1.3	1.0	1.1	0.6
Foods Rationed on B.Us. ...	—	—	—	—
Fresh Milk (incl. School Milk) ...	13.1	11.7	12.8	11.9
Potatoes	—	—	—	—
Other Foods	13.0	13.8	14.4	9.1
Total	41.0	40.0	42.0	32.8

TABLE XXXID
Outlay on Different Diets

	Per ' Man ' per Week 80 Unchanged 1946 s.	 d.	Families 1947 s.	 d.	163 Fams. 1947 s.	 d.	Low cost diet April 1948 s.	 d.
Specifically Rat. Foods	4	4	4	1½	4	3	3	7¾
Foods Rationed on ' Points ' ...		10	1	0¾	1	1½	1	9½
Foods Rationed on B.Us.								
Bread and Flour	1	5	1	4¾	1	4½	1	4¾
Cake and Buns		6¼		7½		8¾		—
Fresh Milk (incl. School Milk) ...	1	8½	1	6½	1	7¼	1	8½
Potatoes		10¼		9		8½		6
Other Vegetables and Fruit[1] ...	2	0	2	2	2	0½	1	5
Other Foods	2	11¼	3	7¼	3	6½	2	2
Total	14	7¾	15	3¼	15	4½	12	7½

[1] Fresh and tinned only.

We compare the standardized intake from the average diets of our sample in Tables XXXI A, B, and C, and, further, in Table XXXI D, the outlay on these diets, with the intake from, and the cost of, an inexpensive diet the schedule of which we compiled in April 1948, in our series on low cost diets[1]. The only alteration made in the low cost diet, as compared with the original schedule, is that in the present paper we have allowed for the purchase of the butter ration, which originally was replaced by margarine, thus raising the outlay per ' man ' per week by $1\frac{3}{4}$d. above our original figure. Potatoes were rationed in April 1948, at 3 lbs. per head per week; this determined the amount of them that could be included in the low cost diet.

In comparing the data in Tables XXXI A, B, and C it should be remembered that, as shown in Table XXIX, the ' male adult equivalent ' values per person for calories are not identical with the ' male adult equivalent ' values for protein; on the other hand, they are, on the average, practically the same as our cost 'man' values[2], employed in calculating our figures in Table XXXI D. The divisor used for obtaining the figures of average protein intake is approximately a fifth larger than the divisors used for calculating the averages of calorific intake and of cost. Hence in order to make the protein value in Tables XXXI B and C commensurate with the figures of cost, these figures would have to be multiplied by about 0.83, or, inversely, the protein values would have to be multiplied by 1.20. However, it is basically the demand for calories that determines the outlay on inexpensive diets, and the comparison between the data in Tables XXXI A and XXXI D is a straightforward one. And although it seemed necessary to point out the inherent differences between the different sets of data, little would be gained by attempting any adjustments. For, in any case, the figures in these tables represent merely averages and have no reference to the diet of any particular person, since specific foods are not shared in proportion by the members of a family but according to habit and to individual needs.

Fundamental differences in the two sets of figures—those derived from our sample of household accounts and those relating to the low cost diet in April 1948—are evident with respect to the foods rationed on points and to the residual group of ' other foods '. They arise as far as nutritional intake is concerned mainly from two interrelated facts. In compiling the schedule of a low cost diet we assumed that no meals were obtained away from home, and that the outlay on anything that might be termed a ' semi-luxury ' should be minimised as far as reasonably possible. It was therefore essential for the foods rationed on points included in the diet to have high calorific values, *i.e.*, they had to be mainly starchy foods. This also resulted in a relatively large average figure of second-class protein from this group, but in a very small average figure of animal protein.

No direct relation exists between the number of ' points ' and the amount of money required for the purchase of foods thus rationed. In general, more ' points ' have to be given up per unit of money spent for foods that are scarce and dear than for those that are cheap and in good supply. Hence a housewife having at her disposal a given number of ' points ' would be liable to spend the more on foods rationed on ' points ' the cheaper the kinds of food bought by her, a fact that is demonstrated in the figures of outlay in Table XXXI D. The higher outlay on specifically rationed foods by the housewives that kept the accounts mainly reflects their higher outlay on meat, partly resulting from the larger meat rations in the summer of 1946 and 1947 than in April 1948, and partly due to the fact that the figures of their outlay on meat also included purchases of unrationed offals. In April 1948, the meat ration amounted to only a shilling's worth per person over 5 years old, and only this outlay on meat was allowed in our schedule.

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[1] Cf. BULLETIN, Vol. 10, No. 5, *A Family Diet at Low Cost*, by T. Schulz, Tables III and VIII.

[2] Cf. Part 1, Table II.

No outlay on cake or buns was assumed in the low cost diet, and only the least expensive vegetables were included in it. The only fruit assumed to be purchased was 6½ oz. of oranges per person per week, costing about 3¼d. per person (4½d. per ' man ').

(4) CONCLUSION

Our survey of the purchases of food of 163 families during a fortnight in the summer of 1947 indicated that the average expenditure on food was slightly higher—between 5 and 6 per cent—than it had been 12 months earlier. This could be accounted for by the increased expenditure on unrationed foods. Rationing was more comprehensive in 1947 than it had been during our survey in 1946; in particular, flour and all flour products were rationed from July 21st, 1946. In spite of this we found no indication that as a result of it the purchases of these foods by the families of our sample had been reduced; in the summer of 1947, their consumption of them amounted, however, to more than was accounted for by their average allowance of B.Us.

The changes in the average nutritional intake from the summer of 1946 to the summer of 1947 were insignificant, a small rise in the standardized calorific intake of 3 per cent and in that of total protein of 2 per cent, being accompanied by a small fall of about 2 per cent in the corresponding intake of animal protein.

T. SCHULZ.

APPENDIX : THE CONSUMPTION OF MILK

We saw in Table XXVII that during our sampling periods in 1946 and 1947, the average consumption of fresh milk purchased at home at the full price,[1] amounted to about 2¾ pints per person per week. The average consumption of tinned milk lay between 0.1 pint and 0.2 pint (Table XXI). For the purpose of studying the domestic consumption of milk in some detail the families may conveniently be sub-divided into 3 groups, one consisting of families with children under 5 years old that received Government milk, a second group consisting of families with children at school who could obtain there a third of a pint of milk on each school day, and the final group comprising the families that had no children aged less than 15 years, and none of whose children was still at school. In our sample for 1947 there were 80 families in the first group, 64 families in the second, and 19 families in the last one.

In Table 1 we show the domestic consumption of milk—fresh milk and tinned milk added together—per person per week, of the 64 families with children at school but no children under 5 years old, compared with their outlay on food per 'man' per week, and in relation to the average size per family and the average number per family of children at school. Children at school and juveniles up to the age of 18 years

TABLE 1 *Weekly Milk Consumption of 64 Families with Children at School*[2]

Domestic consumption of all milk, per person per week. (Figures in columns : heavy type, total No. of families ; below : per family, average No. of persons; average No. of children at school).

Food Expend. per 'Man' per Week	1 pint +	2 pints +	3 pints +	4 pints +	5 pints and over
Under 10s.			**1** 7.0 ; 4.0		
10s. +	**2** 8.0 ; 4.5				
11s. +		**1** 7.0 ; 4.0	**2** 5.0 ; 1.5	**1** 7.0 ; 4.0	
12s. +		**2** 8.0 ; 3.5	**2** 8.5 ; 2.0		
13s. +		**3** 6.3 ; 1.7	**3** 4.3 ; 2.3	**1** 4.0 ; 2.0	**1** 3.0 ; 1.0
14s. +	**1** 9.0 ; 3.0	**1** 6.0 ; 2.0	**4** 5.0 ; 2.5	**1** 4.0 ; 1.0	**1** 5.0 ; 3.0
15s. +		**1** 3.0 ; 1.0	**5** 4.2 ; 1.6	**2** 3.0 ; 1.0	**1** 6.0 ; 1.0
16s. +	**2** 7.0 ; 3.5		**3** 4.0 ; 2.0	**2** 3.0 ; 1.0	
17s. +			**1** 4.0 ; 1.0	**4** 4.5 ; 1.8	
18s. +		**1** 7.0 ; 1.0		**2** 3.0 ; 1.0	
19s. + and over		**1** 3.0 ; 1.0	**6** 3.8 ; 1.7	**5** 3.4 ; 1.2	**1** 3.0 ; 1.0
	5 7.8 3.8	**10** 6.1 ; 2.1	**27** 4.7 ; 2.0	**18** 3.8 ; 1.5	**4** 4.3 ; 1.5

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[1] *I.e.*, not obtained under the Government scheme for children under 5 years old, at 1½d. a pint or free.

[2] No children under 5 years old.

TABLE 2. *Weekly Milk Consumption of 80 Families with Children under 5 Years*

Domestic consumption of all milk *excluding* Government milk and children receiving it, per person per week. (Figures in columns : heavy type, total No. of families ; below : per family, average No. of persons; average No. of children at school; average no. of children under 5 years old).

Food Expend. per 'Man' per Week	under 1 pint	1 pint +	2 pints +	3 pints +	4 pints +	5 pints +	6 pints and over
under 10s.	**1** 11.0 ; 3.0 ; 3.0		**3** 6.0 ; 1.3 ; 1.3	**1** 6.0 ; 2.0 ; 1.0			
10s. +		**1** 8.0 ; 2.0 ; 2.0		**1** 5.0 ; 1.0 ; 1.0			
11s. +		**1** 12.0 ; 7.0 ; 1.0	**1** 7.0 ; 3.0 ; 2.0	**1** 7.0 ; 2.0 ; 3.0			
12s. +	**1** 4.0 ; — ; 2.0		**1** 9.0 ; 4.0 ; 3.0	**2** 4.5 ; 0.5 ; 2.0	**2** 5.0 ; 2.0 ; 1.0		
13s. +		**1** 5.0 ; 1.0 ; 2.0	**1** 5.0 ; 2.0 ; 1.0	**4** 6.0 ; 2.0 ; 2.0	**1** 7.0 ; 3.0 ; 2.0	**1** 3.0 ; — ; 1.0	
14s. +		**1**[1] 10.0 ; 5.0 ; 3.0	**1** 4.0 ; 1.0 ; 1.0	**2** 7.5 ; 4.0 ; 1.0	**1** 5.0 ; 2.0 ; 1.0	**1** 8.0 ; 4.0 ; 2.0	**3** 5.3 ; 1.0 ; 2.0
15s. +			**4**[2] 6.8 ; 3.0 ; 1.5	**3** 5.3 ; 2.3 ; 1.0	**2**[5] 5.5 ; 1.5 ; 2.0	**1** 5.0 ; 1.0 ; 1.0	**1** 5.0 ; — ; 2.0
16s. +		**2** 7.5 ; 2.5 ; 1.5	**1** 5.0 ; 2.0 ; 1.0	**3**[4] 4.3 ; 1.0 ; 1.3	**2** 6.0 ; 2.5 ; 1.5		**1** 4.0 ; 1.0 ; 1.0
17s. +			**3**[3] 4.0 ; 1.0 ; 1.0	**4** 4.8 ; 0.3 ; 1.0	**2** 4.5 ; 1.0 ; 1.5		**1** 4.0 ; 1.0 ; 1.0
18s. +				**1** 3.0 ; — ; 1.0	**2** 4.0 ; 1.0 ; 1.0	**4** 4.0 ; 0.8 ; 1.3	
19s. and over				**4** 3.5 ; 0.3 ; 1.3	**2** 4.0 ; 1.0 ; 1.0	**2** 3.0 ; — ; 1.0	**2** 4.0 ; 0.5 ; 1.5
	2 7.5 ; 1.5 ; 2.5	**6** 8.3 ; 3.3 ; 1.8	**15** 5.8 ; 2.1 ; 1.4	**26** 5.0 ; 1.3 ; 1.4	**14** 5.0 ; 1.6 ; 1.4	**9** 4.2 ; 0.9 ; 1.2	**8** 4.6 ; 0.8 ; 1.6

In each of the following groups one family spent on infant milk foods per week (no. of children under 5 years old in brackets) : [1] 2s. 6d. (3) ; [2] 3s. 9d. (2) ; [3] 4s. (1) ; [4] 3s. 6d. (2) ; [5] 6s. 3d. (2).

were entitled to 3½ pints of milk per head per week, at the full price of 5d. a pint, while older persons were only allowed between 2½ and 3 pints per week; but it was possible to buy more than this amount if a dairyman had an unsold surplus of milk. It will be seen in Table I that the consumption of milk bore little relation to the families' outlay on food, families whose members liked milk apparently purchasing as much as they could obtain, and others as little as they wanted. About three-sevenths of the 64 families drank between 3 and 4 pints per person per week; about a quarter of the families drank less, and about a third of them drank more.

The corresponding picture of milk consumption for the 80 families with children under 5 years old is given in Table 2. In calculating the milk consumption for the purpose of Table 2 we have omitted all the children in receipt of Government milk as well as the milk received for them, *viz.*, 7 pints per child per week. The average numbers per family of such children will be found in Table 2 as the last figures in the sequences giving the average number of persons per family, the average number of children at school, and, finally, the average number of children under 5 years old. The figures in heavy type above these figures indicate the number of families in each of the cross-sections, similar to the corresponding figures in Table 1. A consumption of fresh and of tinned milk per person over 5 years old per week of between 3 and 4 pints was recorded by just under a third of the 80 families; over three-eighths of them consumed more, and over a quarter of the families consumed less than this.

None of the 19 families with no young children consumed less than their approximate allowance of milk, and as will be seen from the data in Table 3, nearly 95 per cent of them consumed at least 3 pints per head per week. These 19 families were, however, all fairly small, comprising on the average only 4.1 persons, as compared with 5.5 persons per family with children under 5 years old, and 4.9 persons per family with children at school but no children below school age, and the fact that in cooking small quantities tend to go relatively less far than large quantities may have somewhat affected their demand for milk per head. Moreover, the older the children the less satisfactory is the nutritional intake provided by the family rations and the greater the need to obtain what supplementary nutriment is available.

TABLE 3

Consumption of All Domestic Milk Excluding Government Milk and Children Receiving it

	Total No.	Pints per Person per Week					
		under 1	1—2	2—3	3—4	4—5	5 & over
		Per cent of total number					
(*a*) Families with small Children	80	*2.5*	*7.5*	*18.8*	*32.5*	*17.5*	*21.2*
Persons	428	*3.5*	*11.7*	*20.3*	*30.6*	*16.4*	*17.5*
Children at School ...	125	*2.4*	*16.0*	*24.8*	*27.2*	*18.4*	*11.2*
Children under 5 ...	116	*4.3*	*9.5*	*18.1*	*31.0*	*16.4*	*20.7*
(*b*) Families with Children at School	64	—	*7.8*	*15.6*	*42.2*	*28.1*	*6.3*
Persons	312	—	*12.5*	*19.6*	*40.7*	*21.8*	*5.4*
Children at School ...	126	—	*15.1*	*16.7*	*42.1*	*21.4*	*4.7*
(*c*) Families with no young children ...	19	—	—	*5.3*	*36.8*	*31.6*	*26.3*
Persons	78	—	—	*3.8*	*34.6*	*34.6*	*27.0*

An interesting comparison is afforded in Table 3 of the milk consumption of the two groups of families with young children. It will be seen that the percentages of families purchasing between 1 and 2 pints per person over 5 years old per week are almost the same for the two groups, which points to the existence of a distinct proportion of families that do not care for milk. Some of the families with children under 5 years old probably drew on the milk supplied for their children under 5 years old for the general use of the family; this is certainly suggested with respect to the small percentage (2.5 per cent) of families representing 2 of the 80 families with small children, that consumed less than one pint of fresh and tinned milk per person over 5 years old, over and above the milk allowed for their infants.

In Table 4 we show the consumption per head of all the milk obtained by the housewife (ordinary fresh milk, Government milk, and tinned milk) of the 80 families with children under 5 years old. A decidedly unsatisfactory consumption of milk was recorded by only 6 per cent of the families; on the other hand, 16 per cent of the 80 families recorded an excellent consumption of milk, of practically a pint per head per day.

Table 5 considers the purchase of tinned milk in relation to the purchases of fresh milk, per person over 5 years old. Purchases of tinned milk during the period of our survey in 1947 were recorded by 60 of the 163 housewives that kept an account. It is interesting to notice that it was largely the families with a fair average consumption of fresh milk that purchased additional tinned milk, and not, as in pre-rationing days, the families with an exceptionally low consumption of fresh milk. The reason for this is obvious: in general, a family will not take less than their allowance of fresh milk and yet surrender precious ' points ' for tinned milk. We found, however, two rather striking exceptions to this rule. Two families of our sample, consisting of 9 and of 7 persons, the former comprising 5 earners and the latter 3 earners, and neither of them obtaining any Government milk, purchased, per head per week, only about a third of a pint of fresh milk. In addition they consumed, per head per week, nearly a pint of tinned milk, the housewives explaining that the only kind of milk finding favour with the members of their families was sweetened condensed milk.

TABLE 4 *Total Domestic Milk Consumption of Families with Small Children*[1]

	Total Number	Pints per Person per Week				
		2—3	3—4	4—5	5—6	6 and over
		Per cent of total number				
Families	80	*6.2*	*23.8*	*30.0*	*23.8*	*16.2*
Persons	428	*10.7*	*25.5*	*28.7*	*20.1*	*15.0*
Children at School	125	*13.6*	*32.0*	*27.2*	*16.0*	*11.2*
Children under 5 ...	116	*7.8*	*21.5*	*28.4*	*23.3*	*19.0*

[1] Including Government milk.

TABLE 5

Weekly Domestic Consumption of Fresh and Tinned Milk per Person over 5 Years

Tinned Milk	Type of Families	Number of Families : Fresh Milk				
		under 1 pt.	1 pint +	2 pints +	3 pints +	4 pints +
less than ¼ pint	Child. under 5	1	1	2	2	1
	No ,,	–	1	1	8	1
¼ pt.—½ pt.	Child. under 5	–	1	3	4	1
	No ,,	–	–	2	5	3
½ pt.—¾ pt.	Child. under 5	–	–	2	2	3
	No ,,	–	–	1	3	1
¾ pt.—1 pt.	Child. under 5	–	1	1	–	–
	No ,,	2	–	–	3	–
1 pt. and over	Child. under 5	–	–	–	–	1
	No ,,	–	–	–	2	1
Av. 0.4 pt.	Child. under 5	1	3	8	8	6
Av. 0.5 pt.	No ,,	2	1	4	21	6

Milk at school is available free to all children since July 21st, 1946. During our survey in 1946 milk at school was obtained free by 21 of the children of the 80 *unchanged* and *changed* families; 37 of the children of these families bought on each school day two-thirds of a pint, and 61 children bought one-third of a pint. No milk at school was taken by 17 children. During our survey in 1947, one boy was stated never to drink milk at school, and one girl to drink it only occasionally. A number of housewives explained that although their children could have milk at school they were not certain whether the children actually took it, or, if so, whether they took it regularly. In two instances we were informed that a child was very fond of milk, and that it consumed at school two-thirds of a pint a day whenever some surplus was available.

THE JAPANESE CURRENCY REFORM : A LESSON IN MONETARY EXPERIENCE

Since the end of World War II, monetary reforms have been a feature of the plans of almost every major country that has had to take radical measures to deal with the problem of inflation. The role of monetary reforms in the overall strategy of combating inflation varied in emphasis. In some countries currency reform was a major facet of complex plans ordinarily involving deposit-blocking along with a capital levy and direct controls over prices, wages and output; in other countries currency reform was but an ancillary measure to facilitate extraordinary tax measures.

The efficiency of the currency reform itself in contributing to the defeat of inflation is difficult to assess. Characteristically, however, when currency in circulation (or currency plus free deposits) is plotted from the conversion date onwards, the monetary aspects of the progress of inflation in the countries which have resorted to this device in practically every case assume a V-formation; if plotted by ratios, or on semi-log paper, the slope of the right-hand side of the V indicates to some extent the failure of the reform by measuring the rapidity with which liquid funds have attained their conversion-date levels.

The matter is also complicated by the fact that in several countries which have undergone monetary reforms, foreign credits have allowed imports of materials, further obscuring the effect of the internal reform measures in checking inflation.

The monetary reform which took place in Japan during the first week of March 1946 allows greater isolation of the effects of monetary reform *per se* in curbing inflation than is usually possible. Here was a country in which note issue and prices were many times their pre-war levels and rising rapidly, while production was virtually at a standstill. Nor did a coherent wage policy exist at the time of monetary reform and for over a year afterwards. Foreign credits in the usual sense were not available and from 80 to 90 per cent of the reduced amount of imports coming to Japan at the time was food under the ' disease and unrest ' formula, rather than raw materials upon which the economy was heavily dependent.[1] In addition, the other major prongs of the anti-inflation attack, a capital levy and war-indemnity tax, and a production allocation scheme, were not carried into effect until the initial impact of the currency reform had ebbed away. For almost a year, therefore, the monetary reform aspect of the anti-inflation programme had to carry the burden of the attempt to stabilise the Japanese economy. That a monetary programme alone could be expected to deal effectively with an inflation of the kind Japan was experiencing is, most will agree, unlikely; it is rather the purpose here to show, at least roughly, to what extent such a reform affected the inflationary trend and to outline the chief reasons for the failure of the Japanese anti-inflation programme.

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[1] ' White Paper of the Japanese Government ', July 4th, 1947, in *Monthly Summary of Non-military Activities in Japan*, Supreme Commander for the Allied Powers, July 1947, p. 50–51. (Hereafter referred to as ' Monthly Summary S.C.A.P.')

I. The Background of Currency Conversion

Virtually unhampered access to Bank of Japan credit by the Government during the war had increased the note issue of the Bank from 6.0 billion yen at the end of 1941 to 42.0 billion at the end of August 1945. The method of war finance used by Japan during most of the war period contributed directly and largely to the expansion in currency circulation. Briefly described, the Bank of Japan would initially take the Government's bonds, establishing credits to the Government in return. Customarily the Bank took about two-thirds of each issue, a proportion which rose in later war years, while a Government savings bureau which collected savings of the masses took the remainder. The expenditure of these funds by the Government would build up deposits and excess reserves of commercial banks. These banks were then encouraged to invest their surplus reserves in the Government bonds initially taken by the Bank of Japan. To the degree that such bonds were not ' absorbed ' by the banking system but allowed to remain with the Bank of Japan, an increase in currency in circulation resulted. Extensions of credit by the Bank of Japan to the Government was increasingly supplemented in the last two years of war by direct advances in addition to investment in bonds.[1] In later years of the Greater East Asia war increasing resort was had to measures requiring banks and financial institutions to invest fixed quotas of their deposits and liquid funds in Government bonds. This process backfired, in that the Bank of Japan had to expand its loans to these institutions to allow them to maintain their cash reserves and ease the financing of war industries, thus indirectly aiding enlargement of the note issue.[2]

Throughout the 1941–45 period tax revenues never exceeded about a third of annual budgets. In 1941 war expenditures accounted for 23 per cent of gross national product whereas in 1944 this figure had risen to 51 per cent.[3]

Despite the enormous pressures upon prices created by the increase in liquid funds, a greater volume of transactions, increased subsidies and intensified price and rationing controls initiated in mid-1940, together with a heightened savings campaign, succeeded in keeping the general price index rising much more slowly than the currency issue. Even if legal price indexes are neglected in favour of an index reflecting black market prices during the war period, this appears to have been the case, although quality deterioration, of course, cannot be taken into account.[4]

Industrial production during the war years averaged approximately double the 1930–34 average, and peak output was attained in 1941. Not until the latter part of 1944 did total output begin to fall seriously among manufactures : the food, beverage and tobacco group stayed at nearly the 1930–34 level during the first three years of the Greater East Asia War. An absolute fall, however, was experienced by other consumer goods output such as textiles and bicycles, which from 1941 onwards approached only a third of 1930–34 production.[1]

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[1] On December 31st, 1945, direct advances totalled 11 billion yen. See *Japan Economic Statistics*, (hereafter referred to as J.E.S.), *Supreme Commander for the Allied Powers*, Feb. 1948, p. 99.

[2] See Tamagna, F. ' The Financial Position of China and Japan,' *American Economic Review*, May 1946, p. 620.

[3] *U.S. Strategic Bombing Survey Report*, 'The Effects of Strategic Bombing on Japan's Economy,' 1946, p. 16.

[4] See black-market index of wholesale prices computed by Professor Morita of Yokohama College, *op. cit.* p. 96.

Although inflationary trends had been set in motion during the war years, the situation had not become unmanageable by the end of the war in August 1945, though the conditions existed for a runaway inflation. Actually, the tinder-box was set off by developments that took place immediately before and after the surrender.

From the surrender on August 15th, 1945, until August 31st, 3.8 billion yen were withdrawn from savings deposits. Between August 15th and 31st also, bank loans increased by over 30 billion yen; currency in circulation during those two weeks mounted from about 30 billion yen to over 42 billion. In September 1945 bank loans decreased 6.7 billion yen from August, and money in circulation dropped by one billion yen. By October, however, withdrawals from savings accounts had increased again; during October and November 1945 savings dropped by a billion yen. Bank loans during November amounted to over 4 billion yen. As banks found it difficult to meet all their obligations, it was necessary for the Bank of Japan to increase its loans to them by 30 billion yen during 1945. Most of these funds did not return to the banking system but remained in circulation.[2]

The reasons behind these statistical changes to which currency expansion responded were primarily these : the unrestrained payment of war damage and other government guaranteed claims, leading to an expansion of bank credit coupled with almost proportionate borrowing from the Bank of Japan; payment of separation bonuses and salaries of labour retained but not productively employed; the large Government overdraft on the Bank of Japan which was met by the issue of new currency ; individual withdrawals from deposits due to apprehension regarding blocking of funds, or to meet rising living costs, or for speculative purposes.[3]

But to make these figures meaningful with respect to the totality of inflationary sources, production and prices must be looked at also. Industrial production had fallen to 20 per cent of the 1931–33 level during August 1945; through the rest of 1945 the index of physical volume of output averaged about 13 per cent of the base period.[4] Much of this production was accounted for by mining and non-consumer goods. The Tokyo Retail Price index,[1] which had stood at 251 for August 1945 (July 1937=100), by December 1945 had risen to 481. This is an official price index, however, unadjusted for black-market prices at which about 40 per cent of the people's necessaries was being provided.[2] An Index of Black-Market Prices of food, clothing and utensils, based on September 1945 (computed by the *Oriental Economist*), showed black-market prices up 22 per cent by December 1945.[3]

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[1] Indexes are taken from S.C.A.P. *Japanese Economic Statistics*, February 1948, p. 6. The index understates to some extent the rise in total output during the war years and probably predates the year in which peak output actually occurred owing to the fact that it is weighted in terms of 1930–34 employment in various sectors, before heavy industry employment had really developed.

[2] The data are based on figures in S.C.A.P. *J.E.S.*, February 1948, ' Financial Data Section ' and Sunaga, *op. cit.*

[3] It has been asserted that certain Japanese industrialists and Government officials encouraged the inflation for reasons of personal gain and to hamper the occupation. See Sunaga, K., *op. cit.*, also *White Paper*, Japanese Government, July 4th, 1947, *Summary of Non-military Affairs in Japan*, S.C.A.P., July 1947, p. 19.

[4] *Oriental Economist*, March 29th, 1947. Also the White Paper, *op. cit.* reported 10 per cent of the 1935–37 average, p. 38.

As indicated by Chart I, the situation continued to deteriorate into the first few months of 1946. Early efforts made by the Supreme Commander for the Allied Powers to check note expansion by limiting and freezing war indemnity payments, shifting government deficit financing from bond flotation to Bank of Japan advances, and utilisation of the resources of savings institutions, and by limiting bank credit to short-term commercial paper had proved ineffective. By the end of February 1946, Bank of Japan notes in circulation totalled 62 billion yen.

Rises in production during early 1946 were more than counterbalanced by the tremendous disparity between the monetary superstructure and real output. The removal of production controls at the end of the war by the Japanese and the dissipation of stockpiles into the black-market and illegal hoards impeded increases in production. Occupation costs also contributed to the inflationary pressure by drawing upon current output while providing payments to workers. The uncertain reparations programme acted as a brake upon production by making producers hesitant to start operations. The interaction of these factors had resulted in raising the official Retail Price Index to 830 (1941–100) by February 1946.

2. Deposit Freezing and Currency Conversion

As early as November 1945, the Japanese government had proposed a weak-kneed scheme for dealing with the inflation. A financial tax and plan of some severity was adopted early in 1946 embracing freezing of deposits, monetary conversion, and a capital levy and war-profits tax. The long-run intent of the plan was not merely to check inflation, but also to secure a more equitable distribution of wealth.[4] The immediate effects of the freezing and currency conversion were intended to remove the pressure of enormous purchasing power upon the price system by reducing the community's liquid funds, and to facilitate collection of the capital levy. A price revision was also planned to gear the existing unrealistic legal price structure to the new monetary level, and an Economic Stabilization Board was to be created to allocate materials and plan production. All these prongs of the attack against inflation were supposed to be pressed concomitantly or in rapid succession.

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[1] *Oriental Economist*, February 1946.

[2] Based on a study made December 1945 by S.C.A.P. of 16,000 Tokyo family expenditures. See Monthly Summary, December 1945. [3] *Oriental Economist*, March 26th, 1947.

[4] See H. Shavell ' Post-War Taxation in Japan,' *Journal of Political Economy*, April 1948, p. 124.

The first step of the programme was inaugurated on February 17th, 1946, with the announcement of the blocking of all deposits and other obligations of financial institutions.[1] Withdrawals from savings accounts were limited to 300 yen for each family head and 100 yen for each dependent.[2] War damage sufferers were allowed a one-time withdrawal up to 5,000 yen for rehabilitation, and, providing they had no cash funds, could draw up to 500 yen per month for living expenses for families of three or more.[3] Limited withdrawals were permitted, with proper evidence, for political campaigns, medical and similar expenses and certain tax payments.

Two additional provisions had important implications for the success of the financial measures: Employers could make monthly withdrawals from restricted deposits up to 500 yen per employee for cash payment of wages and salaries, less deductions for taxes ordinarily collected at the source. The excess of wages or other current or non-recurrent payments over 500 yen had to be paid by restricted check. The government's broad aim was to eventually achieve a limitation of each consumer's spending to 500 yen per month, which later led to the economic milieu created by the reform being dubbed the '500 Yen Life'.[4] In addition, entreprenuers could withdraw liberal amounts of cash for approved business purposes. This was presumably to prevent the choking off of funds for productive effort.[5]

The next step of the financial reform was implementation of the currency conversion. An Imperial Ordinance required all Bank of Japan notes above 5-yen denomination to be turned in to designated agencies between February 25th and March 7th, 1946, in exchange for a limited amount of new notes on a yen for yen basis.[6] This limit was 100 yen per person for private individuals; public institutions were not limited in the exchange for new notes but businesses were given only amounts needed to cover interim operations. All yen above these amounts were deposited in blocked accounts. After March 2nd, 1946, old yen were to be null and void.

On March 2nd, also a major revision of the price structure was performed with the object of stabilising prices at a level that would more realistically reflect rising production costs.[7] Previously the fixed-price system had been based on the level of prices obtaining on September 18th, 1939, and subsequent revisions were made with reference to that date. In the general revision of March 2nd, 1946, the frame of reference was changed to average prices during 1937 and the new price level set as 'a multiple of 1937 average prices using the ideal rice-price yardstick.'[1] The consumer price of rice was raised but put on a dual basis to allow a still higher price to producers, with the government subsidizing the difference. Since rice is the central staple in the Japanese diet, wages, salaries, prices, etc., were supposed to be fixed in relationship with the new rice-price.[2] Coal was also raised in price and put on a subsidized dual-price basis to allow a higher producer price. The new price structure appeared to have been influenced more by current black-market prices than mere recognition of increased production costs. The net effect of the initial price revision was to create a new structure of prices on the average about 130 per cent over the old level of legal prices, when weighted by the significance of some 200 items in the Japanese living standard.[3]

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[1] Imperial Ordinance 83, Feb. 16th, 1946.

[2] This provision was later amended by limiting withdrawals for the family head to 100 yen if his income from other sources exceeded 100 yen per month.

[3] This allowance was suspended in April, 1946, by Allied direction.

[4] It should be borne in mind that this income was separate from other permitted withdrawals. Thus a worker could receive the limit of 500 yen in cash wages together with what he could otherwise be permitted to withdraw from his blocked accounts.

[5] To prevent borrowing for speculation or non-productive purposes, extension of credit by all financial institutions was limited to purposes and amounts for which withdrawals from restricted deposits were authorised. Loans for taxes were also prohibited. See *Ordinance 84*, Feb. 17th, 1946.

[6] A stamped rice ration book constituted a check on evasion attempts. *Imperial Ordinance 84*, Feb. 17th, 1946.

[7] 'A New Price Control Regulation,' *Mainichi Shimbun*, March 1st, 1946.

The fiscal measures, the capital levy and the war-profits tax were meantime left to the wrangles of the Diet. The proposed levy on corporations and individuals, it was hoped, would bring in about 70.0 billion yen, and the war-profits tax on corporations and individuals about 29 billion yen.[4] This sum would have been equal to about one-fifth of the estimated privately owned national wealth of Japan as of March, 1946.[5] The original intent was to apply these revenues towards redemption of about three-fourths of the domestically held national bonds. Collection of the levies was to begin in the early summer of 1946.

3. Immediate Effects of the Conversion

The immediate effects of the currency conversion encouraged Japanese officials to believe the currency reform aspects of the programme would be successful.[6] Currency in circulation was reduced from 62.0 billion on February 18th, 1946, to 15.0 billion yen on March 6th, 1946.[7] Deposits in ordinary banks were up from 130.0 billion yen on February 16th to over 160 billion yen on March 7th, 1946; of this total 128 billion yen was in restricted deposits. By using the blocked currency, ordinary banks were able to reduce their loans from the Bank of Japan by 17 billion yen, from 44 billion just before the conversion to about 28 billion shortly after it.[8] During the first few weeks of the monetary reform, also, black-market prices weakened; but the expected collapse of the black-market did not take place. Indeed, as efforts to revive production and redirect the distorted channels of distribution proved of little avail, black-market prices soon began to recover their earlier levels. (See Chart I).

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[1] 'Japan Maps Plan to Reduce Prices,' *N.Y. Times*, Feb. 14th, 1946. No explanation of the determination of this 'ideal rice-price is available.

[2] 'The Finance Minister explains the New Price System,' *Tokyo Mainichi*, March 3rd, 1946.

[3] The Index of Retail Prices used in Chart I is not comparable with this computation due to difference in weights and items included. The weights applied in this estimate were those used for these items in the Japanese Cabinet Bureau Index of Living Costs. See *Oriental Economist*, Sept. 1939.

[4] *Nippon Sangyo Keizai*, Jan. 11th, 1946.

[5] Shavell, op. cit., p. 131.

[6] *Oriental Economist*, April 6th, 1946, p. 205.

[7] About 4.0 billion yen was not turned in and considered invalidated. *S.C.A.P. Monthly Summary of Non-Military Activities in Japan*, March 1946.

[8] S.C.A.P. *Japan Economic Statistics, Monthly*, Feb. 1948, p. 99.

Public grumbling against the 500-yen-limit on cash payments for salaries and wages rose to a clamour, the argument being that it was impossible to live within the 500-yen income-limit in view of the necessity to supplement food and commodity needs from the black-market. As the Diet debated the tax plans which were supposed to supplement the financial reform, the continued existence of tremendous deposits on restricted account constituted a potential source of funds against which every loophole for withdrawals was exploited. The average daily rate of increase in note issue from March 9th through March 31st, 1946, stood at about 300 million yen, declined during April, but still held at over 200 billion yen in May, 1946.[1] The table below shows the distribution by purpose for which withdrawals in cash or unrestricted check were made over the period March 9th to June 10th, 1946 :

TABLE I

Deposit Withdrawals by Purpose, March 9th—June 10th, 1946 (*average over period*)

Purpose	*Per cent*
Wages and Salaries	40.0
Living Expenses	33.0
Business Expenses	10.0
Emergencies, etc.	17.0
	100.0

Source : Computed from monthly data given in S.C.A.P., Monthly summaries of non-Military Activities in Japan, April—July, 1946.

As deposit withdrawals continued to be heavy and the new yen failed to return to the banking system, it resulted in an increasing strain on the banks. In the face of rapidly dwindling reserves, it was thus necessary for the banks to resume borrowing from the Bank of Japan. By June 1946, such loans had risen to 31 billion yen, by July to 34 billion yen.[2]

Unpopularity of the restricted cheque system of payment aided the pressure on the banking system. Increasing resistance to this form of payment was met by people refusing to make contracts or deliver materials unless payment was made in cash or by unrestricted cheque. A ' two-price ' system even came into being under which purchases by cash or unrestricted cheque were priced from 20 to 50 per cent lower than those under restricted forms of payment.[3]

The reason why currency was not returning to the banks brings out an interesting phenomenon. Not only was the new currency being used to support the black market, but large amounts of yen that found their way through legitimate and black channels to the countryside were being hoarded by the farming and fishing population.[4] This indicated that the new yen was

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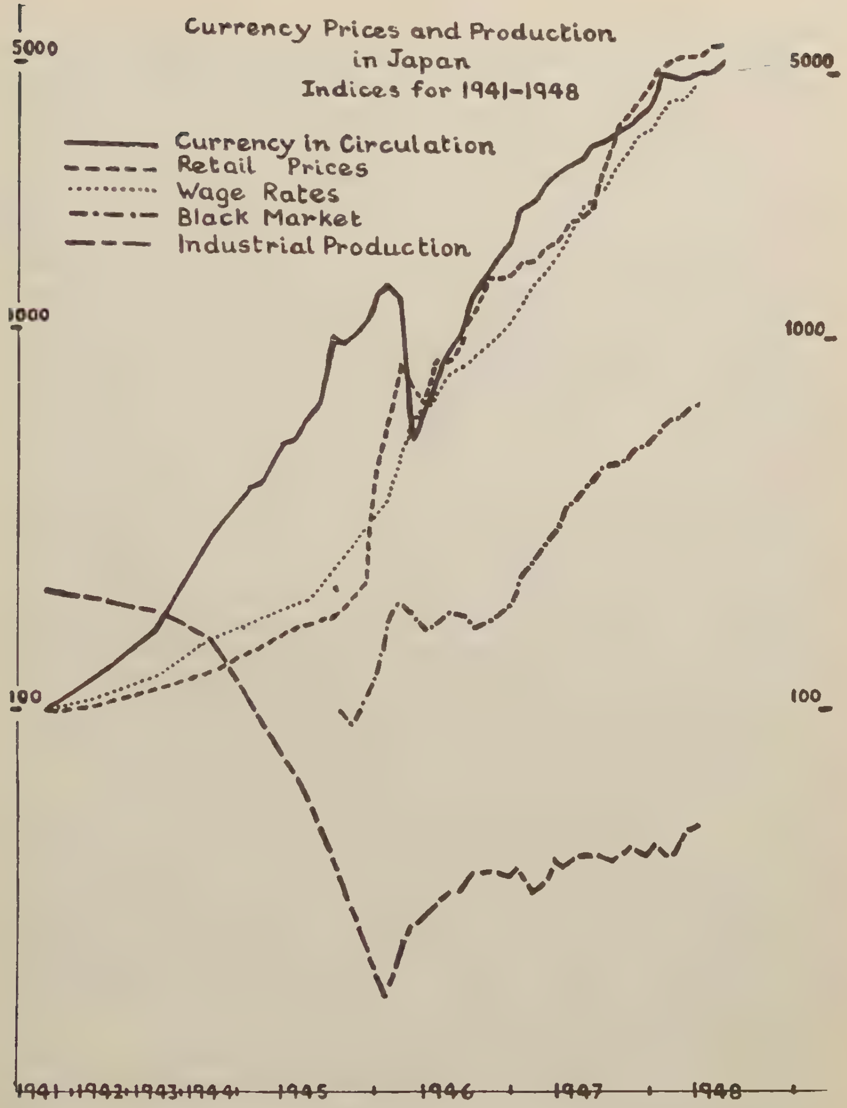
[1] *Monthly Summary*, July 1947, p. 230.

[2] *Oriental Ecônomist*, August 10th, 1946.

[3] ' Real Cause of the Increase in Currency Issue,' *Jiji Shimpo*, June 19th, 1946.

[4] A survey made by the Japanese Government in May 1946, indicated that about 50 per cent of the outstanding currency was in farming and fishing communities.



not in danger of repudiation, but more likely, the distrust lay rather in the direction of future government policy regarding deposits.

Although the authorities took a dim view of the hoarding and appealed for the currency to be deposited in banks, the willingness of the farmers to accept and hoard cash had, for a time, a certain value, for as long as farmers were willing to take cash for their produce, even at inflated prices, and hoard yen rather than spend currency in the cities upon scarce city-made products, it provided a breathing space for attempts to reorganise the cities' productive facilities. Meantime, the Government could continue to support the city dwellers through relief and similar payments. The difficulty in Japan's case, of course, was the failure to achieve a reorganisation allowing a sufficient flow of production to make the best of such a situation.

As early as April, 1946, Japanese and Allied authorities, seeing the failure of prices to fall, had attempted to close loopholes contributing to note expansion. The withdrawal for family heads from restricted accounts was reduced to 100 yen, war-damage withdrawals were stopped, and withdrawals for living expenses by retailers, farmers and others whose incomes were largely cash, were suspended. Another Allied directive in April cut off a preferential bank loan system started during the war which had allowed industrialists to obtain funds for speculative commodity purchases. This, it was hoped, would ease financing of consumer-goods production. Such tightening did little to restrict note issue in succeeding months when increased government deficits were financed by Bank of Japan loans to commercial banks.

By June 1946, it was plain that the earlier reported faith of the financial authorities in a stabilised monetary situation to be achieved by May or June had evaporated. On June 2nd, the Imperial Ordinances ' Emergency Financial Measures ' were amended to allow enterprises to obtain capital funds by borrowing from banks instead of making withdrawals from frozen accounts.[1] The amendment was intended to liquidate enterprises which had existed by such withdrawals without producing, to establish more firm control over employment of funds by closer bank scrutiny of applications, and to reduce currency in circulation by requiring repayment of loans from banks, instead of the old withdrawals system which provided funds that rarely returned to the banks. The measure failed to have any significant effect upon note circulation, which had risen by June-end to 36.0 billion yen, to 60.0 billion yen on Sept. 10th, 1946, and continued to increase at the rate of 300 million yen daily. Thus, within six months the other side of the V had been completed. Within the context of badly lagging production against cumulatively increasing dis-saving facilitated by expanding liquid funds, the attainment of symmetry of the V can be said to mark the failure of the currency reform. By the end of 1946 the pre-conversion figure was even exceeded by half again as currency in circulation mounted to over 93.0 billion yen.

4. AFTERMATH OF THE MONETARY REFORM

Throughout the period referred to the Japanese Government had had no consistent wage policy. Wage control had been suspended at the end of the war. The 500 yen cash limit which had been expected to serve as a rough wage-control measure, had shortly become merely nominal and by January 1947 was legally raised to 700 yen, but remained merely nominal in effect. The instability of wages led to the collapse of another price programme which had been introduced in May 1946 to supplant the programme of March

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[1] ' Amendment of Financial Emergency Act,' Tokyo Mainchi, June 19th, 1946.

1946 which had become unrealistic. Subsequently, in June 1946, the new Katayama Government inaugurated an industry-classified monthly wage schedule based upon a ' standard wage ', derived by estimating the national average wage, assuming 70 per cent of it being spent on food and necessaries (as surveys revealed) and dividing this amount by an Engel coefficient of .40 to achieve a ' minimum adequate ' wage level for a family of five.[1] The standard wage was set at 1600 yen in June and the Government attempted to stabilise prices on the basis of the industry schedules by raising official prices. Further gains in prices forced additional official price rises and the standard wage was set at 1,800 yen in July 1947 (actual wages, however, varied between 1,200 and 1,600 yen per month). Even this level was behind the July real wage level as adequate rations were not provided in cost-of-living goods and the black market flourished.[2] Accordingly, labour demands for wage rises and special allowances were asserted more strongly. The race between wages and prices is presented graphically on Chart I.

Disguised unemployment was also important in the inflation mosaic. The extent of hidden unemployment is measured by the fact that total industrial employment at the end of September 1945 was about 7.6 million; by July 1946 it had risen to 10.0 million, a level approximating pre-war figures.[3] Yet production was about a third of the pre-war levels at the latter date. The following table giving the distribution of quarterly income payments shows that by the last quarter of 1946 total proprietors' income was on the way to recovering its pre-conversion proportion; commercial income payments, however, which included much of the black-market earnings, had more than recovered its first quarter proportion.

TABLE II

Income Payments to Individuals, 1946
(billion yen, quarterly)

	Jan.–Mar.		April–June		July–Sept.		Oct.–Dec.	
	Yen	%	Yen	%	Yen	%	Yen	%
Salaries and Wages ...	10.0	18.7	17.5	30.4	23.1	30.5	29.5	28.9
Proprietor income ...	40.8	76.3	37.7	65.4	50.6	66.8	70.1	68.7
(Includes commerce) ...	(11.4)	(23.1)	(8.2)	(14.2)	(12.9)	(17.0)	(24.7)	(24.2)
Dividends and Interest ...	1.4	2.6	1.5	2.6	1.4	1.8	1.4	1.2
Rents	1.3	2.4	0.9	1.6	0.7	0.9	1.2	1.2
	53.5	100.0	57.6	100.0	75.8	100.0	102.2	100.0

Source: S.C.A.P. *Monthly Summary*, July 1947, ' White Paper ', p. 23. Figures in parenthesis.

The estimate that commercial income payments constituted about a quarter of the total is particularly interesting in view of the fact that commercial employment was only about 7 per cent of total gainful employment in the later date. The share of salaries and wages, which had risen markedly in the quarter just after monetary reform, remained relatively stable at about

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[1] ' Rational Wage System,' *Oriental Economist*, Jan. 1st, 1947, p. 7.

[2] *Oriental Economist*, Nov. 15th, 1947, p. 28.

[3] *Monthly Summary*, July 1947, ' White Paper,' p. 48.

20 per cent for the rest of the year.[1] The concentration of profits in fields such as trade and services made it difficult for the Government to exact the tax revenues it should have, despite higher income taxes.

2. *Government Deficits and Industrial Financing.*

Government net deficits together with the deficit-financing of industry contributed most importantly to currency expansion throughout 1947. The movements of these expenditures as against net deposit increases are shown in Table III below.

TABLE III

Government Deficit, Financial Loans and Savings
(billion yen, quarterly)

	Govt. Deficit	Changes in Loans of Financial Institutions		Total	Changes in Savings		Balance
		General	R.F.B.[1]		Free A/c	Blocked A/c	
April–June 1946 ...	15,652	4,339	—	4,339	8,297	—11,531	—3,234
July–Sept. 1946	9,699	10,995	567	11,562	13,828	—12,914	914
Oct.–Dec. 1946	9,928	26,095	2,856	28,951	25,487	4,617	30,104
Jan.–March 1947 ...	18,560	15,953	3,788	19,741	28,077	—23,604	4,473
April 1947...	5,698	3,420	1,743	4,983	6,157	— 9,844	—3,687

Note. Minuses indicate decreases. Large decreases in blocked accounts during Jan.–March 1947, and April 1947, presumably were due to withdrawals from blocked deposits to pay the capital levy. Postal savings are not included in the Government deficit. After September 1946 changes in loans reflect only the new (free) account and insurance companies are excluded. The blocked account has been adjusted to show, after November 1946, only changes in the first blocked account and increases due to transfers from special to blocked accounts are omitted. This table is computed from the table on p. 47 ' White Paper ' op. cit. July 1947.

[1] Reconstruction Finance Bank.

The fiscal part of the anti-inflation programme was finally implemented in early 1947 and considerably lessened the Government's deficit for the 1946–47 fiscal year. At the time of the currency reform in March 1946 the Government had planned a capital levy and war indemnities tax to yield nearly 100 billion yen to be used to redeem debt. The possibility of damaging corporate structures if corporations were subject to capital levy and war indemnity cancellation, persuaded the Diet to exclude corporations from the levy, thus lowering its estimated yield to 43.5 billion yen. Essentially, the levy was to effect a better distribution of wealth by getting at the fortunes of the Zaibatsu industrial groups.[2] Tax rates were sharply progressive from 30 per cent on the excess of wealth over 100,000 yen as at March 1946, to 90 per cent on amounts over 15,000,000 yen; the levy was payable in cash, blocked deposits or in kind before March 1947. By April 30th, 1947, 35 billion yen had been collected and the Government expected to near its 43 billion yen goal, after re-assessments had been made.[3] The war indemnity tax was actually more drastic than the levy. It would have been fiscally daring and politically dangerous for the Government to have attempted to pay off the

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[1] In pre-war prosperity years wages and salaries were somewhat over a third of income payments, greatly below the proportion for advanced western nations. See Oshima, H. *National Income of Japan*, U.S. O.S.S. Study 2636, p. 184.

[2] Shavell, H., op. cit., p. 127.

[3] Shavell, op. cit., p. 133.

106 billion yen of war indemnity claims and loan guarantees accumulated during and just after the war. On the other hand, outright repudiation would have wrecked most of the industrial-financial structure. A compromise was reached by enacting a ' 100 per cent tax at the source ' which after certain exemptions reduced the indemnity debt to 15 billion yen.

The inability of tax revenues to keep up with increased expenditures occasioned by rising prices had forced the occupation authorities to allow increases in the national debt. In May 1948 211 billion yen of domestic bonds were outstanding and about 41 billion in short-term bills; the total national debt was of the order of 390 billion yen.[1] The 1947–48 General Account budget totalled about 210 billion of which the Government had hoped to raise 181 billion through taxes, stamps and monopoly profits. Of the 134 billion yen in tax revenues budgeted, only 70 billion had been received by February 1948.[2] Income tax receipts lagged badly with only 18 billion yen received of the 68 billion expected.

The failure of tax revenues in the prior fiscal year to meet expected receipts complicated matters in the preparation of the 1948–49 budget. After several revisions, the 1948–49 General Account budget planned for nearly 400 billion in expenditures and 424 billion yen in revenues.[3] In terms of money national income, the 1948–49 budgeted expenditures were put at 21 per cent of the estimated national income as against 18 per cent for the previous fiscal year.[4] Approximately 93 billion of the expenditures were credited to ' war termination ' expenses, including occupation costs, reconstruction, reparation and similar expenses.[5] The real burden of these costs is indicated by the fact that during 1947 about 20 per cent of steel output went towards satisfying occupation needs.[6]

5. Conclusion.

The currency reform measure, it has been stated, even in connection with deposit-blocking, could not have been expected unaided to check the inflation in Japan. For the primary sources of the Japanese inflation came from inadequacies on the real rather than the monetary side. But its value as a ' breathing spell ' measure, which by removing the monetary overhang could help to pave the way for readjustments between prices and production, might have been enhanced had it been fully implemented with the other facets of the anti-inflation plan. The failure to achieve currency and price stabilisation can be laid to what might be termed the administrative and theoretical defects of the anti-inflation strategy.

Administratively the major errors lay in failing to apply the fiscal and production-control measures as rapidly as possible. Neglecting to enact the capital levy (and war-profit tax) promptly not only negated most of the value of these taxes once they were collected, but allowed the existing maldistribution of wealth to be maintained and permitted the existence of huge blocked deposits. The mere existence of these deposits constituted a potential source of dissaving and it was difficult to prevent large amounts of the deposits from getting into circulation via permitted withdrawals.[1]

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[1] *Oriental Economist*, June 26th, 1948. Total debt figure estimated.
[2] *Oriental Economist*, March 20th, 1948, p. 212.
[3] *Oriental Economist*, June 12th, 1948, p. 468.
[4] *Oriental Economist*, June 19th, 1948.
[5] Occupation costs had constituted 28 billion yen of the 1947–48 expenditures.
[6] *Oriental Economist*, June 5th, 1948, p. 448.

The delays of the creation of the Economic Stabilisation Board from April 1946 to August 1946 meant inadequate raw material controls that contributed to the pace of inflation. The plan for effective production priorities should have been created early enough to forestall the dissipation of stocks that took place in early 1946, a ' latent ' form of inflation which later aggravated overt inflation. Effective physical controls could have prevented businesses from holding on to raw material stocks by using bank loans for current expenses.

A wage-stop might also have been a useful supplementary device, though in itself would not have prevented price rises. Likewise the extension of rationing beyond the few necessities it already covered, such as rice and clothing, would have aided the effectiveness of the other measures.

To have balanced the budget, a goal which preoccupied Allied as well as Japanese officials, would have helped but would not have precluded inflation due to the composition of government expenditures and the probability that current dissaving would have continued, but it would have been a mitigating factor.

Legal permitted withdrawals were serious defects. The war damage allowances raised the level of effective purchasing power immediately after the monetary conversion and monthly family allowances made for increases in the income stream. But even more important, perhaps, were the withdrawals permitted to business men. For these ' expense ' withdrawals could be used on the black market to maintain living standards rather than for restoring production.

The inadequacy of the conversion-freezing technique as a price-stabilising mechanism, however, seems essentially from the underlying assumption that restricting the quantity of money would avoid inflationary price changes. Pressure on prices can, however, be maintained from current income and out of past savings, which a mere currency-conversion-deposit-freezing cannot overcome. It has been pointed out that throughout 1946–47 the greater part of what industrial production there was consisted of producers' goods or mining output, while food was short. If a substantial part of current income payments originates from investment activity while demand is concentrated upon a limited output of consumer goods, an inadequate propensity to save, both private and governmental, cannot help but defeat price stabilisation.[2]

It has been pointed out that throughout 1946–47 the greater part of what industrial production there was consisted of producers' goods or mining output, while food was short. On the other hand, about 70 per cent of family incomes was spent on food and necessaries over the same period. Within conditions where the bulk of income is spent on consumption goods the supply of which is relatively inelastic and the demand equally so, prices can be expected to rise leading to further demands for wage increases, and a vicious spiral results.

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[1] It is not meant to imply here that the capital levy in itself would have had great weight in effecting a lowering of demand since an equitable levy would affect high income groups relatively more heavily, thus leaving total demand little affected.

[2] Rising prices under such conditions will exist with unemployed labour and capacity so long as raw materials are insufficient.

The criticism that the Quantity Theory approach tends to pre-occupy policy makers with financial measures and pushes production factors into the background does not mean that financial reforms are unimportant in checking inflation. If taken together with fiscal and production measures financial reforms may be a necessary element in a stabilisation attempt; but concentration primarily on monetary reform, and an incomplete and inconsistent monetary reform at that, tended to frustrate even the limited goal which an intelligent programme could have achieved in Japan.

A. MORGAN.

TABULAR APPENDIX

Explanation of symbols : ... the figure is not available.
( ) figures provisional or approximate. — figure is negligible.

TABLE I. UNITED STATES

Index Nos. 1935–39=100[1]	Monthly Averages 1941	1945	1946	1947	1948 April	May	June	July	Aug.	Sept.
Personal Incomes, bill. $[2]	95.3	171.6	177.2	196.6	207.4	207.2	212.3	212.9	214.6	214.6
Consumption expenditures, bill $[3]	82.3	121.7	143.7	164.4	...	...	176.5	...	...	178.5
Dept. Store Sales—										
Value Index	133	207	264	285	306	310	312	316	311	312
Vol. Index of Farm Marketings[4]	116	140	139	147	113	118	130	144	146	168
Employment,[5] millions	36.2	40.0	40.7	42.5	44.3	44.6	45.0	45.1	45.5	45.9
Unemployment, millions	5.0	1.1	2.3	2.1	2.2	1.8	2.2	2.2	1.9	1.9
Building Contr. Awarded—										
Value Index	213	119	266	276	315	328	350	357	350	341
Vol. Index[6]	183	86	168	...	157	160	168	167	164	...
Ind. Production Index—										
Durable	201	274	192	220	217	221	222	219	222	223
Non-durable	142	166	165	172	177	178	179	169	176	178
Minerals	125	137	134	149	147	162	159	153	159	154
Manuf. Orders—Index (1939=100)	203	189	211	...	252	244	265	246	260	...
Manuf. Inventories— Index(1939=100)	158	167	218	261	271	274	277	281	283	284
Wholesale Price Index—										
Farm Products	108	169	198	239	246	249	258	256	251	249
Foods	105	134	165	213	224	225	230	238	240	236
All others	110	123	135	166	183	184	184	186	189	189
Cost of Living Index	105	128	139	159	169	171	172	174	175	175
Factory Av. Hourly Earngs., cts.	73	102	108	122	129	130	132	133	135	136
Imports. Total Mill. $	279	344	410	478	527	549	616	559	598	558
from Europe, Mill. $	24	...	66	...	81	83	95	88	...	...
Exports, Total Mill. $	427	820	812	1206	1123	1103	1013	1022	988	927
to Europe, Mill. $	128	...	342	...	374	352	336	333	...	...

Sources : Bureau of the Census for Unemployment ; *U.S. Department of Commerce* for Income Payments, Consumer Expenditures, Farm Marketings, Manufacturers' Orders and Inventories, and Foreign Trade ; *U.S. Department of Labor* for Employment, Prices and Wages ; *Federal Reserve Board* for Department Store Sales, Building Contracts and Industrial Production.

[1] All index numbers, except those of prices and of manufacturers' orders, inventories and farm marketings, are adjusted for seasonal variations.

[2] Seasonally adjusted at annual rates. [3] Quarterly figures, seasonally adjusted at annual rates.

[4] The monthly figures are no longer seasonally adjusted.

[5] All employees in non-agricultural establishments, unadjusted figure.

[6] Value Index deflated with the (Engineering News Record) Index of Construction.

Table II. UNITED KINGDOM[1]

A. Official Figures

	Unit	Monthly Averages 1938	1945	1946	1947	1948 May	June	July	Aug.	Sept.	Oct.
Production of—											
*Coal (weekly av.) ...	Mill. tons	4.4	3.5	3.6	3.8	3.9	4.2[2]	3.5	3.5	4.1[2]	4.2
Steel (weekly av.) ...	000 tons	200	227	244	240	293	297[2]	232	271	297[2]	297
Cement	000 tons	643	338	548	580	665	675	850[9]	661	658	856[9]
*Bricks	Millions	650	102	287	378	362	384	365	362	404	396
Passenger Cars	Thousands	28.4	1.4	18.3	23.9	26.6	36.2[9]	28.0	21.9[9]	34.6	26.2
Comm. Vehicles ...	,,	8.7	10.2	12.2	12.9	12.6	17.5[9]	13.2	12.2[9]	17.3[9]	15.6
Merchant Vessels[3] ...	Mill. gr. tons	1.06	1.46	1.76	1.94	1.94	2.04	1.96	1.98	2.03	2.00
Cotton Yarn (wkly. av.)[10]	Mill. lb.	23.7[11]	11.48	12.73	12.73	14.83	15.35	15.02[2]	14.22	15.09	...
Rayon[12]	,,	8.52	7.09	8.97	9.90	11.58	12.66	11.94	10.65	13.07	13.40
Electricity	000 mill. kwh	2.0	3.1	3.4	3.5	3.5	3.4	3.2	3.3	3.6	4.0
Gas (weekly av.) ...	Mill. therm	31.9	38.9	43.1	44.4	42.4	41.4[2]	39.0	39.0	42.1[2]	46.1
*Perm. Houses[4] ...	Thousands	30.0	0.22	4.12	10.53	17.71	18.44	17.36	14.57	17.50	17.16
*Employment total[5] ...	Millions	17.9	16.4	17.4	18.6	19.0	19.1	19.1	19.1	19.2	19.2
*Manuf. Ind.	,,	6.8	6.8	6.6	7.1	7.3	7.3	7.2	7.3	7.3	7.3
*Manuf. Exports ...	,,	1.0	0.41	1.31	1.53	2.01	2.01	2.00	2.00	2.03	2.04
*Unemployment[6] ...	Thousands	1688	103	359	256	290	274	282	299	294	315
*Retail sales (weekly) ...	1938=100	100	116	137	155	174	174	173	164	176	185
Wholesale Prices—											
Food and Tobacco ...	,,	100	163	163	169	187	189	189	188	186	185
Ind. Prod.	,,	100	169	178	200	235	236	236	235	235	235
Consumer Goods' Prices[7]	,,	100	153	157	168	...	...	...	...	...	...
Retail Prices	June 1947=100	...	...	...	100[13]	108	110	108	108	108	108
Weekly Wage Rates ...	Sept. 1939=100	...	150	162	168	175	176	176	176	176	178
Retained Imports ...	£ Mill.	77	92	108	149	176	177	186	174	169	175
U.K. Exports	,,	39	33	76	95	130	134	146	131	131	140
Terms of Trade[8]	1938=100	100	93	95	94	88	87	86	87	89	88

Sources : Monthly Digest of Statistics ; Ministry of Labour Gazette ; Board of Trade Journal.

[1] Figures for items marked * refer to Great Britain.

[2] Average of five weeks.

[3] Tonnage under construction at end of period, 100 gross tons and over.

[4] New permanent houses completed by local authorities and private builders; excluding aluminium houses.

[5] Including employers and self-employed, but excluding Forces, Auxiliary Services, Civil Defence, Police and private domestic service. All annual employment figures refer to mid-year.

[6] Number of insured workers registered as wholly unemployed or temporarily stopped. From July 1948 onwards, all unemployed persons on the registers of Employment Exchanges. Mid-yearly (mid-July), or mid-monthly figures.

[7] Prices of consumer goods and services calculated from the annual White Papers on National Income and Expenditure.

[8] Ratio of export prices to import levels.

[9] Five week period.

[10] Excluding staple fibre, mixed and waste yarns.

[11] 1937.

[12] Excluding staple fibre.

[13] June 17th.

Table IIb. Derived Estimates

	1946	1947	Av. for first 6 months 1948	July	Aug.	1948 Sept.	Oct.	Nov.
1. Working-class Cost of Living[1] (1937–8=100) ...	...	161–2[1]	173	174–5	174–5	174–5	175	...
2. Middle-class Cost of Living[1a] (1938=100)	...	178[1a]	189–90	191	191–2	192	192–3	...
3. Seasonally corrected Coal Production† (Annual rates mill. tons)	190	197[2]	208	201[3]		207	209	(210)
4. Seasonally corrected Inland Consumption† (Annual rates, mill. tons)	186	184[2]	190	188	194	195	195	(195)
5. Coal Exports and Bunkers (Annual rates, mill. tons)	9	5[2]	13	20	17	19	19	(18)
6. Inland Consumption + Exports (4+5)	195	189[2]	203	208	211	214	214	(213)
7. Seasonally corrected Coal Stock Changes (Annual rates, mill. tons) (3—6)*	—5	+8[2]	+5	—8[3]		—7	—5	(—3)

† Great Britain. * + = increase, — = decrease.

[1] See Bulletin, Vol. 10, p. 140, *et. seq.* 1947 estimate is for mid-June.

[1a] Bulletin, Vol. 10, p. 225 *et seq.* 1947 estimate is for mid-June.

[2] 1947 Coal statistics are on the basis of a 52-week year, to make them comparable with the others shown.

[3] Averaged because of holidays.

Seasonal Correction of Coal Statistics. See Bulletin, Vol. 10, p. 272.

TABLE III. FRANCE

	Unit	Monthly Averages				1948					
		1938	1945	1946	1947	May	June	July	Aug.	Sept.	Oct.
Production of—											
Coal[1]	Mill. m. tons	4.0	2.8	4.1	3.9	3.9	4.1	3.8	3.5	3.8	0.5
Electricity ...	000 Mill. kwh	1.6	1.5	1.8	2.1	2.3	2.3	2.3	2.2	2.3	2.1
Steel	Mill. m. tons	518	136	367	479	598	616	641	612	550	451
Cement ...	000 m. tons	296	127	281	321	456	487	533	489	497	461
Comm. Vehicles	Thousands	3.7	2.7	5.2	5.9	8.7	8.8	7.4	5.3	7.7	8.4
Passenger Cars...	,,	15.2	0.1	2.5	5.5	7.6	8.9	8.9	5.6	7.2	10.2
Cotton Fabrics...	000 m. tons	12.1	2.7	8.4	11.2	12.0	14.0	10.4	9.9	13.8	...
Building plans[2] ...	000 cbm.	706	155	413	649	...	...	...	...	...	...
Wagon ldgs. (dly.)	Thousands	41	17	31	35	37	40	37	34	39	(45)
Unemployment[3] ...	,,	373.6	15.8	15.7	7.4	12.0	14.0	15.0	18.3	...	...
Wholesale Prices	1938=100	100	373	648	989	1653	1691	1698	1783	1791	1884
Retail Prices[4] ...	,,	100	393	645	1030	1511	1529	1528	1670	1783	1844
Imports	000 m. frs.	3.8	4.8	19.5	28.9	52.7[5]	61.3	51.4		65.5	72.2
Exports	,,	2.5	1.0	8.5	17.7	37.1[5]	44.4	35.8		42.4	44.0

Source : Bulletin de la Statistique Générale de la France.

[1] Including lignite. [2] Asked for in Paris and 98 towns. [3] Unemployed on relief ; monthly figures refer to mid-month.

[4] Retail prices in Paris of 34 articles.

[5] Since April 1948 the foreign trade of the Sarre is included.

TABLE IV. BELGIUM

	Unit	Monthly Averages				1948						
		1939	1945	1946	1947	April	May	June	July	Aug.	Sept.	Oct.
Production—												
Total Industry ...	1936–38=100	95	34	80	95	110	105	96	94	...	...	...
Coal	Mill. m. tons	2.5	1.3	1.9	2.0	2.32	2.07	2.29	1.99	2.18	2.34	2.43
Steel	000 m. tons	252	61	190	241	337	306	240	317	351	352	372
Cement ...	,,	213	54	157	217	292	301	291	271	290	325	310
Electricity ...	Mill. kwh	466	382	520	601	651	614	590	600	635	648	715
Textile Ind. ...	1938=100	113	38	92	110	118	98	108	92	92	...	...
Paper Ind. ...	,,	120	26	109	132	155	128	136	106	126	...	...
Building Activity[1]	Thousands	2.7	1.1	2.4	3.0	4.7	4.3	4.7	4.0	3.7	...	...
Unemployment[2]	,,	195	145	67	68	95	94	105	129	133	124	...
Retail Prices ...	1936–38=100	106	329	334	343	396	398	397	396	400	403	...
Imports	000 mill. frs.	1.6	1.1	4.4	7.1	7.3	7.1	7.5	6.8	6.7	7.4	...
Exports	,,	1.8	0.3	2.5	5.1	6.7	5.7	6.5	5.5	5.6	6.4	...

Source : Institut National de Statistique ; Banque Nationale de Belgique.

[1] Number of units newly constructed and reconstructed (permits). [2] Daily average of registered unemployed.

TABLE V. NETHERLANDS

	Unit	Monthly Averages 1939	1945	1946	1947	1948 April	May	June	July	Aug.	Sept.
Production—											
Coal	000 m. tons	1072	424	693	842	961	839	915	958	889	895
Electricity	Mill. kwh	223	93	225	283	320	296	293	298	296	...
Bricks	Millions	84.1	7.6	45.3	60.0	69.1	64.6	80.8	77.2	75.9	...
Cement	000 m. tons	45.1	21.2	33.6	43.3	50.7	37,0	50.8	53.8	51.9	54.8
Butter	000 m. tons	9	3.2	4.4	4.4	5.5	8.1	8.4	8.7	8.1	7.6
Cheese	000 m. tons	10.1	3.1	5.4	5.4	6.8	11.5	12.8	12.2	11.8	...
Unemployed[1] ...	Thousands	235.6	...	53.1	30.7	26.4	22.4	21.2	...	...	...
Retail trade[2] ...	1938=100	113	...	151	209	249	230	238	259	228	...
Cost of living ...	1937=100	102	(176)	(192)	199	204	203	...	...	...	...
Wage rates—											
Industry[3]	1938–39=100	104	135	168	173	180	180	180	...	...	...
Agriculture	,,	100	225[4]	241	...	...	...	...	...	...	...
Imports[5]	Mill. fl.	130	...	197	...	406	396	444	415	410	...
Exports[5]	,,	84	...	68	...	208	226	244	213	214	...

Source : Centraal Bureau voor de Statistiek ; Rotterdamsche Bankvereeniging ; United Nations, Monthly Bulletin.

[1] Registered wholly unemployed excluding public relief workers.

[2] Value of turnover of department and chain stores.

[3] Rates for men in manufacturing, mining and construction. [4] December. [5] Excluding silver bullion and specie.

TABLE VI. DENMARK

Index Nos. 1938=100	Unit	Monthly Averages 1939	1945	1946	1947	1948 May	June	July	Aug.	Sept.	Oct.
Production											
Industrial[1] ...	Index	105	74	101	112	123	121	120	120	120	121
Animal prod.	,,	101	68	76	75	74	80	71	62	65	65
Butter	000 m. tons	15.2	11.0	11.7	10.4	12.8	12.6	11.8	10.6	10.4	10.2
Meat (pork)	,,	27.4	15.1	16.3	16.9	13.8	18.0	13.3	10.5	13.2	11.3
Electricity[2] ...	Mill. kwh	69[3]	76	98	115	122	119	111	131	137	147
Wholesale prices ...	Index	105	190	188	207	226	229	230	231	231	231
Cost of living ...	,,	101	159	158	163	...	...	167	...	...	167
Imports	Mill. kr.	145	58	237	257	225	283	311	260	333	343
Exports	,,	132	75	135	193	203	199	226	201	217	276

Source : Danmarks Statistics, Statistiske Efterretninger ; United Nations, Monthly Bulletin.

[1] Revised Series. [2] Consumption. [3] 1938.

TABLE VII. NORWAY

Index Nos. 1938=100	Unit		Monthly Averages			1948					
		1939	1945	1946	1947	April	May	June	July	Aug.	Sept.
Ind. Prod.... ...	Index	107	69	100	115	130	139	134	80	123	130
Electricity gen. ...	Mill. kwh	851	820	938	938	1017	1069	1044	929	949	1052
Retail turnover	Value Ind.	105	120	182	223	237	225	231	217	...	...
Wholesale prices ...	Index	102	178	170	176	182	182	183	183	182	182
Cost of living ...	Index	102	156	159	160	160	161	159	159	158	158
Imports	Mill. kr.	114	100	183	318	311	263	308	269	282	339
Exports	,,	67	27	100	151	183	181	181	144	149	194

Source: Central Bureau of Statistics.

TABLE VIII. SWEDEN

Index Nos. 1939=100	Unit		Monthly Averages			1948					
		1939	1945	1946	1947	March	April	May	June	July	Aug.
Ind. Production[1] ...	Index	100	113	136	139	143	145	143	143	142	142
Ind. Employment[2]	,,	105	119	124	124	125	125	125	...	124	...
Unemployment[3]	Per cent	9.2	4.5	3.2	2.8	3.8	2.3	1.7	1.9	1.7	...
Steel Production	000 m. tons	99	100	101	99	104	119	96	104	64	89
Cost of living ...	Index	104	145	146	150	157[4]	...	...	158[4]	...	...
Imports	Mill. kr.	208	90	281	431	378	463	405	423	449	412
Exports	,,	157	146	211	268	226	321	344	355	317	308

Source: Index, Svenska Handelsbanken; Quarterly Review, Skandinaviska Banken; United Nations, Monthly Bulletin.

[1] Revised Series. [2] Including mining. [3] Unemployment in Trade Unions (percentage). [4] Refers to end of quarter.

TABLE IX. SWITZERLAND

Index Nos. 1938=100	Unit	Monthly Averages 1938	1945	1946	1947	1948 April	May	June	July	Aug.	Sept.	Oct.
Employment—												
All Industries ...	Quart. Index	100	110	123	134	...	...	137[5]	...	...	136[6]	...
Building	,,	100	89	108	119	...	...	142[5]	...	...	134[6]	...
Metal Ind. ...	,,	100	122	137	147	...	...	152[5]	...	...	152[6]	...
Chemical Ind. ...	,,	100	130	157	174	...	...	179[5]	...	...	179[6]	...
Cotton	,,	100	76	87	97	...	...	101[5]	...	...	100[6]	...
Food Ind. ...	,,	100	106	120	129	...	...	133[5]	...	...	133[6]	...
Electricity gen.[1] ...	Mill. kwh	448	666	696	651	681	721	775	816	804	807	...
Building permits :												
New Flats... ...	Numbers	703	752	1043	1261	1318	597	852	1152	630	945	779
Factories[2] ...	,,	93	167	267	281	...	...	233[5]	...	...	215[6]	...
Tourism[3]	Thousands	630	264	506	703	459	576	799	1171	1491	802	...
Cost of living[4] ...	Index	...	153	152	159	163	163	164	163	163	163	163
Imports	Mill. frs.	134	102	285	402	499	459	477	380	345	324	348
Exports	,,	110	123	223	272	289	268	289	280	253	290	327

Source : Schweiz. Nationalbank ; Departement Fédéral de l'Economie Publique.

[1] Public power stations. [2] Including extensions and structural changes.

[3] Number of nights spent by foreign tourists in Swiss hotels and sanatoria (000).

[4] August 1939=100.

[5] Monthly average, 2nd quarter. [6] Monthly average, 3rd quarter.

TABLE X. ITALY

	Unit	Monthly Averages 1939	1945	1946	1947	1948 March	April	May	June	July	Aug.
Electricity Prod.	000 m. kwh	1.3	0.9	1.3	1.5	1.5	1.5	1.7	1.7	1.8	1.7
Steel Prod. ...	000 m. tons	190	23	96	142	183	184	181	194	192	166
Coal Imports ...	000 m. tons	1100[1]	...	353[2]	749	813	452	564	809	855	724
Unemployment ...	Millions	...	...	1.7	2.0	2.3	2.4	2.4	2.3	...	...
Cost of living ...	1938=100	...	...	...	4575	4919	4937	4874	4835	4601	4792
Imports[3]	000 m. lire	0.9	...	7.6	34.5	67.3	65.2	81.5	74.0	64.0	...
Exports[3]	,,	0.9	...	5.4	17.1	38.5	45.1	40.7	44.3	49.5	...

Source : Instituto Centrale di Statistica ; United Nations Monthly Bulletin of Statistics.

[1] Average 1935, 1937 and 1938. [2] Average April–December. [3] Excluding silver specie.

Table XI. FINLAND

Index Nos. 1939=100	Unit	Monthly Averages 1939	1945	1946	1947	1948 April	May	June	July	Aug.	Sept.
Production—											
Home Ind.[1] ...	Index	100	56	75	91	...	...	...	...	...	...
Export Ind.[1] ...	,,	100	51	69	84	109	99	100	...	...	...
Electricity ...	Mill kwh	259	247	244	233	237	231	217	215	221	239
Wholesale Prices	Index	100	365	571	690	902	911	921	940	935	934
Cost of living ...	1938 9[2]=100	101	282	450	584	765	765	773	809	816	812
Imports	Mill. Mark	631	568	2023	3914	4939	6025	7006	5938	5397	5498
Comm. Exports ...	,,	643	436	1921	3769	4467	3696	5201	6349	5407	5944
Reparation Deliv.	,,	...	685	731	867	1129	1356	1879	...	...	...

Source : Unitas, Quarterly Review of Trade Conditions in Finland ; Monthly Bulletin, Bank of Finland.

[1] Volume index. [2] August 1938—July 1939.

Table XII. POLAND

	Unit	Monthly Averages 1938[1]	1945	1946	1947	1948 Feb.	March	April	May	June	July
Production—											
Coal	Mill. m. tons	17.1	2.0	3.9	4.9	5.2	5.8	5.8	5.9	5.8	6.1
Pig Iron	000 m. tons	74	21	61	72	85	95	94	94	92	...
Steel	,,	120	45	102	132	147	154	164	148	...	...
Cement	,,	143	33	117	127	106	169	168	190	191	192
Glass	,,	2.1	...	...	5.1	6.1	5.7	4.8	5.6	5.6	6.3
Paper	,,	17.1	3.4	12.4	17.2	19.8	20.5	20.6	16.6	21.1	21.6
Electricity	Mill kwh	319	418	476	551	606	633	587	554	562	587
Cost of living[2]	Index[2]	1	...	95	123	134	135	132	132	133	133

Source : Central Statistical Office of the Republic of Poland.

[1] Pre-war frontiers.

[2] Retail prices of goods and services purchased by a wage-earner's family in Warsaw city (prices of rationed articles are not included). Base 1938=1.

TABLE XIII. CZECHOSLOVAKIA

	Unit	Monthly Averages 1939	1945	1946	1947	1948 April	May	June	July	Aug.	Sept.
Production—											
Coal	000 m. tons	1398	952	1178	1351	1575	1372	1523	1405	1387	1385
Electricity ...	Mill. kwh	334	341	464	555	597	574	586	528	600	629
Pig Iron ...	000 m. tons	134	48	80	119	143	139	136	141	137	134
Wholesale Prices[1]	Mar. 1939=100	...	165	288	303	309	311	331	320	321	(322)
Cost of living[2] ...	1939=100	100	168	305	295	294	295	298	293	286	...
Imports	Mill. Kr.	915	76[3]	853	2388	4274	3225	2890	3109	2463	2280
Exports	,,	996	49[3]	1195	2384	3014	3383	3228	3088	2576	3126

Source : Zivnostenka Banka, U.N. Monthly Bulletin. Statistical Bulletin of Czechoslovakia.

[1] Bohemia, Moravia and Silesia ; on the first day of each month.

[2] At Prague, manual worker's family (March 1939=100) ; in the first week of the month.

[3] May to December.

TABLE XIV. HUNGARY

	Unit	Monthly Averages 1939	1945	1946	1947	1948 April	May	June	July	Aug.	Sept.
Production—											
Hard Coal ...	000 m. tons	192	58	60	88	112	79	91	104	83	101
Lignite ...	,,	784	298	469	646	660	617	704	708	660	747
Pig Iron ...	,,	34	1	13	25	32	33	27	31	34	...
Petroleum ...	,,	12	55	57	48	40	40	39	38	38	...
Cost of living[1] ...	1937=100	99	...	...	436	495	499	450	424	414	377
Imports[2]	Mill. fl.	142	...	31	122	169	163	143	144	159	...
Exports[3]	,,	175	...	35	87	123	124	148	144	100	...

Source : Office Central Hongrois de Statistique.

[1] At Budapest.

[2] Excluding U.N.R.R.A. imports.

[3] Excluding reparation deliveries.

Table XV. BULGARIA

Index Nos. 1939=100	Unit	Monthly Averages 1939	1945	1946	1947	1947 Dec.	1948 March	April	May	June	July
Industrial Prod.	Index	100	112	115	133	145	138	146	149	164	167
Investmt. Goods	,,	100	88	115	132	110	...	...	...	...	...
Food Ind.	,,	100	96	99	81	93	...	...	...	...	...
Other Cons. Ind.	,,	100	118	118	144	160	...	...	...	...	...
Electy. gen.	Mill. kwh	22	33	36	40	49	47	45	44	44	45
Wholesale prices	Index	100	550	627	714	809	...	...	...	...	...
Cost of living	,,	100	509	573	637	669	...	...	...	...	...
Imports	Mill. leva	433	485	1460	1785	3339	3387	4905	3211	...	...
Exports	,,	505	1033	1245	2044	3558	3065	1977	2078	...	...

Source : Direction Générale de la Statistique, Bulletin Mensuel (Sofia).

Table XVI. GERMANY (BIZONAL AREA)

	Unit	Monthly Averages 1936	1946	1947	1948 March	April	May	June	July	Aug.	Sept.
Ind. Prod.[1]	1936=100	100	33	38	51	53	47	51	62	66	70
Prod. Goods[2] (Br. Zone)	,,	100	36	39	(47)	(47)	(45)	(49)	...	...	...
Cons. Goods (Br. Zone)	,,	100	21	23	(35)	(36)	(30)	(32.5)	...	...	...
Production of—											
Hard Coal	Mill. tons	9.7	4.5	5.9	7.2	7.0	5.9	7.4	7.8	7.5	7.6
Steel Ingots	000 tons	1187	207	246	343	363	324	378	457	510	572
Cement	,,	663	...	214	326	363	375	401	461	506	521
Potash	,,	49.9	...	26.8	40.0	41.1	30.6	38.3	42.0	46.5	50.4
Cotton Yarn	,,	17.4	...	5.2	7.2	7.7	6.2	7.1	8.1	9.1	10.7
Elec. Gen.[3]	000 kwh	...	1218	1337	1592	1511	1389	1358	1380	1464	1628
Import arrivals[4]	Mill. $	...	54	61	92	126	138	160	136	154	...
Export deliveries[4]	,,	...	12	19	26	51	47	40	47	58	...

Source : Monthly Statistical Bulletin of the Control Commission for Germany (British Element).

[1] Provisional Index. [2] Incl. investment goods (iron and steel, foundry products, vehicles, building materials, etc.) and producer goods for general requirement (coal, oil, gas, electricity and chemicals).

[3] Generation by P.U. stations. [4] From preliminary survey.

Table XVII. AUSTRIA

	Unit	Monthly Averages 1937	1946	1947	1948 April	May	June	July	Aug.	Sept.	Oct.
Production of—											
Hard Coal	000 m. tons	19.2	9.0	14.8	14.1	12.8	14.2	14.1	14.3	14.6	...
Lignite	,,	270	200	236	278	240	273	283	270	278	...
Pig Iron	,,	32.4	4.8	23.2	45.9	49.2	55.3	55.8	56.1	57.1	...
Steel	,,	54.1	15.6	29.7	49.6	42.4	59.2	62.3	60.9	57.9	...
Cement	,,	35.8	32.3	23.5	49.6	60.3	73.0	67.1	71.5	...	...
Glass	000 sq. m.	(113)	...	215	328	...	...	...	...	...	...
Electricity gen. ...	Mill. kwh	152	248	252	299	355	370	410	440	361	...
Cost of living[1] ...	March, '38=100	...	107	211	310	307	306	303	303	301	358
Imports...	Mill. Schill.	121.1	20.9	99.4	206.6	178.8	211.7	222.4	222.5	...	...
Exports...	,,	101.4	18.3	70.2	144.5	163.5	161.2	173.8	159.3	...	...

Source : Monatsberichte des Oest. Institutes für Wirtschaftsforschung.

[1] In Vienna. (Revised index of the Institut fur Wirtschaftsforschung ; one 1938 Schilling=66.7 Rd., 1945 and after 1 S.=1 R·M.)

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